VPDES PERMIT FACT SHEET

This document gives pertinent information concerning the reissuance of the VPDES permit listed below. The discharge results from the operation of a publicly owned sewage treatment plant. The permit is being processed as a Minor Municipal permit and consists of removing effluent limitations for fecal coliform and total recoverable zinc, relaxing the copper limitation, adding ammonia and E. coli limitations and updating special conditions. The effluent limitations contained in this permit will maintain the Water Quality Standards of 9 VAC 25-260 et seq.

1. Facility Name and Address: DOC Central Virginia Correctional Center for Women (CVCCW) Wastewater Treatment Plant
6900 Courthouse Road
Chesterfield, VA 23832

Location: 6900 Courthouse Road
Chesterfield, VA 23832

Applicant Name and Address: Virginia Department of Corrections (VDOC)
2892 Schutt Road
Burkeville, Virginia 23922

SIC code: 9223

2. Permit No. VA0023426 Expiration Date: June 5, 2008

3. Owner Contact: Stephen O. Spence, Environmental Services Manager,
(434) 767-5543 x 5319

4.

Application Complete Date:	02/25/08	
DEQ Regional Office:	Piedmont Regional Office	
Permit Drafted By:	Denise Mosca	Date:02/20/08
Reviewed By:	E. Carpenter	Date:02/27/08
Reviewed By:	Ray Jenkins	Date:03/18/08

5. Present Receiving Waters Classification:

Receiving Stream:	Unnamed Tributary to Swift Creek
Basin:	Appomattox (James)
Subbasin:	N/A
Section:	5d
Class:	III
River Mile:	2-XBD001.00
Special Standards:	none

7-Day, 10-Year Low Flow: 0
1-Day, 10-Year Low Flow: 0
30Q5: 0 Harmonic Mean: 0 (See **Attachment C** for flow frequency memo)

6. Licensed Operator Requirements: Class III

7. Reliability Class:I

8. Permit Characterization:

(X) Existing Discharge (001)
(X) Water Quality Limited
SIC Code(s) 9223
(x) Discharge to 303(d) Listed Segment
(X) POTW

(x) Reissuance ( ) Effluent Limited
(x) Municipal ( ) Tidal
(x) Compliance Schedule Required

( ) Pretreatment Program Required

9. Attach a schematic of the Wastewater Treatment System, and provide a general description of the facility.
See **Attachment A**

10. Discharge Location Description: Topo Name: Chesterfield Number: 100A
See **Attachment B for outfall location**

11. Discharge Description:

TABLE I. NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL	DISCHARGE SOURCE	TREATMENT DESCRIPTION	DESIGN FLOW
001	Domestic wastewater from the correctional Unit, the nearby VDOT highway shop and the Chesterfield Division offices of DOC	Equalization basin, two SBRs, an ultraviolet disinfection system, post aeration, a cascade aerator and two sludge digesters.	0.065 MGD

12. Sewage Sludge Use or Disposal: Sludge processing consists of hauling the liquid sludge to the Powhatan Correctional Facility or to Proctor's Creek Wastewater Treatment Plant for aerobic digestion and subsequent land application.

13. Material Storage: Lime, magnesium hydroxide and other typical wastewater treatment chemicals as well as laboratory reagents are stored under roof in the new laboratory building constructed at the same time as the plant upgrade to 0.065 MGD.

14. Ambient Water Quality Information: At the discharge location, the unnamed tributary which is the receiving stream is assumed for modeling purposes to have zero flow. The effluent comprises the stream, and effluent characteristics are used in MSTRANTI for the purpose of calculating wasteload allocations for limit development. See **Attachment C** for the Flow Frequency and 303 (d) Status Determination. The unnamed tributary was not assessed in the 2006 305(b)/303(d) Integrated Report. However, the facility received an E. coli wasteload allocation (WLA) in the "Total Maximum Daily Load (TMDL) Development for the Appomattox River Basin" Report, which was approved by EPA on August 30, 2004 and approved by the State Water Control Board on December 20, 2005. The facility received a WLA of 9.59E+10 E. coli cfu/year based on their previous discharge flow of 0.055 MGD. A Certificate to Operate (CTO) for the 0.065 MGD facility was issued on September 23, 2004. A TMDL modification to adjust the WLA for the current flow of 0.065 MGD was approved by the EPA on January 5, 2009. The facility received a wasteload allocation of 1.13E11 E. coli cfu/year. The discharge location is latitude 37 deg. 24 min 2 sec. and longitude 77 deg 33 min and 49 sec.

15. Antidegradation Review & Comments: Tier 1 X Tier 2 Tier 3
The State Water Control Board's Water Quality Standards includes an antidegradation policy (9 VAC 25-260-30).

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters. The limitations in this permit were developed in accordance with Section 303(d)(4) of the Clean Water Act. Therefore, antidegradation restrictions do not apply.

The antidegradation review begins with a Tier determination. The unnamed tributary to Swift Creek is Tier 1 by virtue of it being considered an intermittent stream. See Staff Comments, 27.d., for discussion concerning the stream characteristics.

16. Site Inspection: Date December 5, 2007 Performed by: Denise Mosca (**Attachment D).**

17. Effluent Screening & Limitation Development:

- Effluent limitations for cBOD5, TKN and DO for the 0.065 MGD plant were established in Jennifer V. Palmore's February 26, 2002 memo (**Attachment E**). TSS limits were taken from federal effluent guidelines.

  Per Guidance Memo # 00-2011, Ammonia and metals were also evaluated using MSTRANTI ver. K and STAT.EXE (**See Table II, below and Attachment F)**. For 001, mean effluent hardness, temperature and pH values were supplied in the application and Discharge Monitoring Reports (DMRs) by the permittee and used to characterize the effluent. These data were also used to characterize the stream inputs to MSTRANTI because the discharge location is being considered an intermittent stream and under conservative conditions the stream consists of the effluent. See Staff Comments, 27.d., for discussion concerning the stream characteristics.

- Dissolved Cadmium and Dissolved Mercury were analyzed at sufficiently stringent quantification limits (QLs) to be considered to be absent for the purpose of this analysis. The required QL for Cadmium was 0.3 ug/l and the result was less than 0.3 ug/l. Likewise, the required QL used for Mercury was 1.0 ug/l and the result was <0.2 ug/l. (**Attachment G**)

- The wastewater constituents that exceeded laboratory quantification limits (Table II) were Bis (2-ethylhexyl) phthalate, Ammonia, Nitrate, Nitrite, Total Phosphorus, Total Dissolved Solids, Total Kjeldahl Nitrogen, Dissolved Copper and Dissolved Zinc. Results for Dissolved Antimony, Dissolved Chromium, Dissolved Lead, Dissolved Nickel, Dissolved Selenium, Dissolved Silver, Chlordane, DDT, Endosulfan Sulfate, and all the PCB cogeners (PCB-1012, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, and PCB-1260) despite being less than the laboratory's quantification limit, were greater than the QL specified by DEQ. PCB total was analyzed at a lower QL than was required, so it is not assumed to be present. Chlordane, DDT, Endosulfan Sulfate, and all the PCB congeners (PCB-1012, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, and PCB-1260) were recalculated by the lab at acceptable QLs dated 12-21-07 and submitted to DEQ on 2-14-08. Therefore, all of these are considered absent for the purpose of this evaluation. **(Attachment G**)

- Limits for Ammonia were determined in accordance with 00-2011. A sample value of 3.0 mg/l was used because of the 3.0 mg/l TKN limit, which already limits the ammonia because ammonia is a component of TKN. Using a sampling frequency of 4/month to correspond with the BOD frequency, limits of 1.6 mg/l monthly and weekly average were determined. TKN is assumed to be 2/3 ammonia, so the calculated ammonia limit is just below that and it is necessary to include the limit in the permit to be protective of water quality. This ammonia limit will become effective in accordance with a 4-year schedule of compliance **(Attachment F).**

- No limit was found to be necessary for chromium III, nickel, and selenium using the stats.exe program. In addition, detectable data were evaluated for human health wasteload allocations for nickel, selenium and zinc and it was found that the aquatic life wasteload allocations were controlling for these parameters. Therefore, no further human health evaluation was necessary. No standards are available for nitrite, total phosphorus, and total kjeldahl nitrogen. Water quality criteria are available for TDS (500,000 ug/l) and nitrate (10,000 ug/l) and greatly exceed the data submitted, but are not applicable to this discharge because the receiving waters are not designated as PWS. The dissolved antimony result of <5 ug/l does not exceed the human health standard of 4300 ug/l. This is the only criteria for antimony, and a permit limit is not warranted because the data provided are so much less than the criteria. The need for nickel, chromium III and selenium limits were ruled out with the stats.exe program analyzing the submitted data with their higher QLs. The facility resampled Cr VI at a QL of 5 ug/l on February 25, 2008 and the result was non-detectable. Because the site specific target value is 6.4 ug/l and the QL is less than the target value, Cr VI may be assumed to be absent for the purposes of this evaluation. Arsenic was not detected at a QL that is below the site specific target value and may be assumed to be absent for the purposes of this evaluation. (**Attachment G**)

- At the 81.0 mg/l hardness, neither the lead nor the silver results produce limits with STATS. (**Attachments F,G**).

- Chloride results of 63 mg/l were compared to the WLA_{acute} of 860,000 ug/l (860 mg/l) and the $WLA_{chronic}$ 230,000 ug/l (230 mg/l) through stats.exe and a limit was not found to be necessary (**Attachments F,G**).

- An E. coli limit was substituted for the fecal coliform limit in the previous permit. A personal conversation with Mark Alling, DEQ - Planning Department Manager established that the E. coli limit would satisfy the TMDL. An email from Randall Morrissette of the VDH indicated that they were in accord with dropping the fecal limit and substituting an E. coli limit (**Attachment E**).
- Regarding the bis 2-ethylhexylphthalate datapoint of 21 ug/l, DEQ Guidance Memo 00-2011 states that, "This substance appears to be a component of the plastic/rubber apparatus used in collecting and/or preparing samples for analysis. The result is contamination of the sample to a minor extent. The analytical results for this material may be disregarded unless the reported concentrations exceed 30ug/l or there is an identifiable source of this material tributary to the effluent in question. " In addition, the reported value is less than the human health wasteload allocation and therefore, not considered to be a problem.
- The values reported for Beta Particle and Photon Activity are in units of concentration; i.e., pCi/L. The water quality standard for this parameter is an exposure standard, expressed in terms of mrem/year. The EPA has established this same standard for community potable water systems. Federal Regulation states that compliance with the potable water standard may be assumed if the average annual concentration of beta particle and photon activity is less than 50 pCi/L and the average concentrations of tritium and strontium-90 are less than 20,000 pCi/L and 8 pCi/L, respectively. For Outfall 001, the reported value of beta particle and photon activity is 8.61 pCi/L, below the stated level. Reported levels of of tritium and strontium-90 were <275 and <1.93 pCi/L, respectively. Because their QLs were less than the EPA potable water standards, these constituents may be considered to be absent for the purpose of this analysis.

TABLE II. TOXICS MONITORING RESULTS

*QL = Quantitation Limit advised by DEQ; Report limit is the quantitation limit shown by the laboratory.

Parameter (ug/l) unless noted	QL*	8/28/07	12/21/07 recalculation (rec'd 2/12/08) sample date 8/28/07
Bis (2-ethylhexyl) phthalate	10 report limit 10 QL	21	20.7
Dissolved Copper	3.0 report limit 0.5 QL	23	
Dissolved Zinc	10 report limit 2.0 QL	19	
Dissolved Antimony	5 report limit 0.2 QL	<5	
Dissolved Chromium	1.0 report limit 0.5 QL	<1.0	
Hexavalent Chromium	10 report limit 0.5 QL	<10	
Dissolved Lead	2.0 report limit 0.5 QL	<2.0	
Dissolved Nickel	3.0 report limit 0.5 QL	<3.0	
Dissolved Selenium	3.0 report limit 2.0 QL	<3.0	
Dissolved Silver	0.5 report limit 0.2 QL	<0.5	

Parameter (ug/l) unless noted	QL*	8/28/07	12/21/07 recalculation (rec'd 2/12/08) sample date 8/28/07
Chlordane	1.0 report limit 0.2 QL	<1	<0.2
DDT	0.12 report limit 0.1 QL	<0.12	<0.01
Endosulfan Sulfate	0.12 report limit 0.1 QL	<0.5	<0.01
PCB-1012	5.0 report limit 1.0 QL	<5	<1
PCB-1221	5.0 report limit 1.0 QL	<5	<1
PCB-1232	5.0 report limit 1.0 QL	<5	<1
PCB-1242	5.0 report limit 1.0 QL	<5	<1
PCB-1248	5.0 report limit 1.0 QL	<5	<1
PCB-1254	5.0 report limit 1.0 QL	<5	<1
PCB-1260	5.0 report limit 1.0 QL	<5	<1
PCB Total	5.0 report limit 7.0 QL	<5	<1
Total Dissolved Solids (mg/l)	10 report limit	344	
Ammonia (mg/l)	0.10 report limit 0.2 QL	0.11	
Nitrate (mg/l)	0.10 report limit	2.90	
Nitrite (mg/l)	0.01 report limit	0.26	
Total Phosphorus (mg/l)	0.05 report limit	2.96	
Total Kjeldhal Nitrogen (mg/l)	0.2 report limit	0.8	
Beta Particle and Photon Activity pCi/L	1 report limit	8.61 ± 3.18	
Chloride (mg/l)	1 report limit	63	

TABLE III. BASIS FOR EFFLUENT LIMITATIONS at 001 at 0.065 MGD

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITS					
	Basis of Limits	MONTHLY AVERAGE		WEEKLY AVERAGE	MINIMUM	MAXIMUM
Flow (MGD)	NA	NL		NA	NA	NL
pH (standard units)	2	NA		NA	6.0	9.0
Total Suspended. Solids	1	30 (mg/l)	7400 (g/d)	45 (mg/l) 11000 (g/d)	NA	NA
E. coli geo mean betw. 10 AM and 4 PM	4	126 (N/cml)		NA	NA	NA
$CBOD_5$	3	10 (mg/l)	2500 (g/d)	15 (mg/l) 3700 (g/d)	NA	NA
Dissolved Oxygen (mg/l)	2	NA		NA	5.0	NA
Ammonia – N (mg/l)	2	1.6		1.6	NA	NA
Total Kjeldahl Nitrogen (as N)	3	3.0 (mg/l)	740 (g/d)	4.5 (mg/l) 1100 (g/d)	NA	NA
Total Recoverable Copper	2	11 (ug/l)		11 (ug/l)	NA	NA

Key

1. Federal Effluent guidelines
2. Water Quality-based Limits
3. Best Engineering Judgment
4. Other (TMDL)
5. VPDES Permit Manual

18. Basis for Sludge Use & Disposal Requirements: Sludge Management Plan is required by 9 VAC 25-31-100P.

19. Antibacksliding Statement: The zinc limit was eliminated due to a higher hardness showing it was not needed. The copper limit increased from 7.8 ug/l to 11 ug/l. These metals are allowed to backslide due to new information that became available which justified a less stringent limit but was not available when the old permit was issued. An executive compliance agreement is in effect for CVCCW to come into compliance with metals limits. A fecal coliform limit was eliminated and an E. coli limit was placed in the permit. The fecal coliform monitoring was at a frequency of 1/week between Memorial Day and Labor Day, with a monthly average limit of 200 N/100 ml (geometric mean), and the E. coli limit is considered to be more stringent because it is year round, with a monthly average limit of 126/100 ml. All other limits are at least as stringent as in the previous permit.

20. Compliance Schedules: A compliance schedule is included for ammonia, a new water quality limit. The permittee will have 4 years from the effective date of the permit to come into compliance. A schedule is not appropriate for the E. coli limit as the permittee met this limit during the previous permit cycle with a demonstration study that showed that chlorination was sufficient to provide compliance with bacteria limits.

21. Special Conditions:

C.1. 95% Capacity Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 2 for all POTW and PVOTW permits.

C. 2. Indirect Dischargers
Rationale Required by VPDES Permit Regulation, 9 VAC 25-31-200 B 1 for POTWs and PVOTWs that receive waste from someone other than the owner of the treatment works.

C. 3. CTC, CTO Requirement
Rationale: Required by Code of Virginia §62.1-44.19 ; Sewage Collection and Treatment Regulations, 9 VAC 25-790.

C.4. O&M Manual Requirement
Rationale: Required by Code of Virginia Section 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation 9 VAC 25-31-190 E.

C .5. Licensed Operator Requirement
Rationale: The VPDES Permit Regulation, 9 VAC 25-31-200 C and the Code of Virginia § 54.1-2300 et seq, Rules and Regulations for Waterworks and Wastewater Works Operators (18 VAC 160-20-10 et seq.), require licensure of operators. The recommended attendance hours by a licensed operator and the minimum daily hours that the treatment works should be manned by operating staff are contained in the Sewage Collection and Treatment Regulations (SCATS) 9 VAC 25-790-300. A Class III licensed operator is required.

C .6. Reliability Class
Rationale: Required by the Sewage Collection and Treatment Regulations, 9 VAC 25-790 for all municipal facilities.

C .7. Water Quality Criteria Reopener
Rationale: VPDES Permit Regulation, 9 VAC 25-31-220 D requires effluent limitations to be established which will contribute to the attainment or maintenance of water quality criteria.

C.8. Sludge Reopener
Rationale: Required by VPDES Permit Regulation, 9 VAC 25-31-220 C 4 for all permits issued to treatment works treating domestic sewage.

C .9. Materials Handling/Storage
Rationale: 9 VAC 25-31-50 A prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia Section 62.1-44.16 and 62.1-44.17 authorizes the Board to regulate the discharge of industrial or other waste.

C .10. Compliance Reporting
Rationale: Authorized by VPDES Permit Regulation, 9 VAC 25-31-190 J 4 and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

C .11. Sludge Use and Disposal
Rationale: VPDES Permit Regulation, 9 VAC 25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

C. 12. Reopeners

a. Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed it they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act. This reopener is included in all permits.

b. 9 VAC 25-49-70 A authorizes DEQ to include technology-based annual concentration limits in the permits of facilities that have installed nutrient control equipment, whether by new construction expansion or upgrade.

c. 9 VAC 25-31-390 A authorizes DEQ to modify VPDES permits to promulgate amended water quality standards.

Part II, Conditions Applicable to All Permits
Rationale: VPDES Permit Regulation, 9 VAC 25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

22. Changes to the Permit:

TABLE IV. CHANGES TO THE PERMIT

OUTFALL	PARAMETER CHANGED	MONITORING REQUIREMENT CHANGED		EFFLUENT LIMITS CHANGED		RATIONALE
		FROM	TO	FROM	TO	
Outfall 001	CBOD loadings			2.5 kg/d mo avg, 3.7 kg/d wkly avg	2500 g/d mo avg, 3700 g/d wkly avg	Guidance Memo 06-2016 (significant figures) Rounding Guidance.
	TSS loadings	1/Week	1/Month	7.4 kg/d mo avg, 11.07 kg/d wkly avg	7400 kg/d mo avg, 11000 g/d wkly avg	Guidance Memo 06-2016 (significant figures) Rounding Guidance. Monitoring req. changed per Water Permit Managers (June 10-12, 2003) meeting minutes, see #27a.
	TKN loadings			0.74 kg/d mo avg 1.11 kg/d wkly avg	740 g/d mo avg 1100 g/d wkly avg	Guidance Memo 06-2016 (significant figures) Rounding Guidance.
	Fecal Coliform	2/month	none	200 N/100 ml	none	DEQ – Planning and VDH agreed that with E. coli limit, fecal was not needed.
	E. coli			None	126 N/100 ml	Facility met demonstration study (required by permit manual) in previous permit cycle, so this limit is currently in effect.
	Ammonia - N	none	1/Month	none	1.6 mg/l mo. Avg; 1.6 mg/l wkly avg	Guidance Memo 00-2011

OUTFALL	PARAMETER CHANGED	MONITORING REQUIREMENT CHANGED		EFFLUENT LIMITS CHANGED		RATIONALE
		FROM	TO	FROM	TO	
	Total Recoverable Copper			7.8 ug/l monthly and weekly avg	11 ug/l monthly and weekly avg	Guidance Memo 00-2011, updated hardness data.
	Total Recoverable Zinc	1/Month	none	56.1 ug/l	none	Guidance Memo 00-2011, updated hardness data.

CHANGES TO PERMIT		
FROM	**TO**	**RATIONALE**
Cover pg. boiler plate	Cover pg. boiler plate	Current permit manual.
Cover pg. Rec. stream class-ification (basin & section)	Cover pg. Rec. stream class-ification (basin & section)	Water Quality Standards Sept. 2007
Cover pg. signatory	Cover pg. signatory	Current agency guidance
Cover pg. facility name	Cover pg. facility name	2007 VPDES permit application
Part 1.A.1.		Limitations for 55, 000 gpd plant not needed as CTO for 65,000 gpd plant issued 9/23/04.
Part 1.A.2.	Part 1.A.1.	Limitations for 65,000 gpd plant (see changes in these, above).
B	B	Chlorine limitations for 55, 000 gpd. plant and E. coli bacterial demonstration study. Study completed 4/07. Section B. in proposed permit contains a schedule of compliance.
C1	C1	95% Capacity Reopener—no change to language
	C2	Indirect Dischargers—added in accordance with current VPDES manual
	C3	CTC/CTO — updated in accordance with current VPDES manual.

CHANGES TO PERMIT		
FROM	**TO**	**RATIONALE**
C2	C4	O&M manual -- updated in accordance with current VPDES manual.
C5	C5	Licensed Operator Requirement— only the requirement for 0.065 MGD shown.
C4	C6	Reliability Class — no change to language
	C7	Water Quality Reopener - added in accordance with current VPDES manual.
C6	C8	Sludge Reopener— no change to language
C3	C9	Material Storage Condition— no change to language
C9	C10	Compliance Reporting. Updated language per GM 06-2016, and current agency guidance.
C7	C11	Sludge Management Plan— no change to language
C8		Treatment Works Closure Plan – included now in SCAT regulation, so dropped from permit.
C10		WQ Monitoring – Attachment A. This requirement is now an application requirement.
	C12	Chesapeake Bay and TMDL reopener. Current nutrient guidance.

23. Variances/Alternate Limits or Conditions: None.

24. Regulation of Users: 9 VAC 25-31-280 B 9 Not Applicable.

25. Public Notice Information required by 9 VAC 25-31-280 B:
Comment period: May 23, 2008 to June 23, 2008
Advertised public notice dates: May 23, 2008 and May 30, 2008 in the Richmond Times-Dispatch.

Persons may comment in writing or by e-mail to the DEQ on the proposed reissuance of the permit, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The Director of the DEQ may decide to hold a public hearing if public response is significant. Requests for public hearings shall state the reason why a hearing is requested, the nature of the issues proposed to be raised in the public hearing and a brief explanation of how the requester's interests would be directly and adversely affected by the proposed permit action.

All pertinent information is on file and may be inspected, and arrangements made for copying by contacting Ms. Denise Mosca at:

Virginia Department of Environmental Quality
Piedmont Regional Office 4949-A Cox Road

Glen Allen, VA 23060
Telephone No. (804) 527-5027
E-mail address: dmmosca@deq.virginia.gov

Following the comment period, the Board will make a determination regarding the proposed reissuance. This determination will become effective, unless the Director grants a public hearing. Due notice of any public hearing will be given.

26. Previous Board Action: An Executive Compliance Agreement was issued to the Department of Corrections for noncompliance with metals at CVCCW on April 27, 2007.

27. Staff Comments:

a. The permittee did not qualify for consideration of reduced monitoring requirements because this facility is currently under an executive compliance agreement. The change in TSS monitoring from 1/Week to 1/Month was independent of the reduced monitoring requirements. The monitoring requirement was changed in accordance with the Water Permit Managers (June 10-12, 2003) meeting minutes where it was decided to increase nitrogen monitoring and decrease TSS.

b. The hardness submitted in the application was much higher (81 mg/l) during this permit cycle than that submitted for the previous cycle (42 mg/l). The facility environmental manager indicated that the facility is presently adding caustic to the potable water to raise the pH to avoid corrosion. Discussions took place with Dept. of Corrections staff concerning their desire to add magnesium hydroxide to the effluent in order to achieve compliance with the copper limit. It was decided by DEQ management to proceed with the hardness values already submitted as these were representative of the past 3 years of operation. Another meeting took place with Corrections staff with DEQ – enforcement, engineering and permitting staff to assist them with finding an alternate means of compliance than the magnesium hydroxide addition. Hardness values were 97.4, 80.1, 65.4 and 245 mg/l. Dept. of Corrections staff requested that DEQ disregard the 245 mg/l figure as a laboratory error. DEQ staff discussed the request with the Water Permits Manager, and the average of the three lower results (81 mg/l) was used.

c. Lake criteria for nutrients do not apply to this facility even though the discharge is about 4000 ft. upstream from Pocahontas Lake because the lake is not cited in 9VAC 25-260-187 of the WQ Standards regulation.

d. DEQ staff discussed with Dept. of Corrections staff whether the stream at the discharge location was intermittent or perennial. The topo map indicates that the stream is intermittent. Dept. of Corrections staff had Resource International perform a study which indicated that the stream was perennial. While the study concluded that the stream may be considered perennial, it did not establish whether, under drought conditions, the stream would be expected to have materially different statistical low flows to warrant re-evaluation of permit effluent limitations or tier classification. The Resource stream study is included in Attachment E.

e. Dept. of Corrections staff raised the question whether their discharge could be considered intermittent. They have a lagoon onsite from the 0.055 MGD treatment scheme which could be used to store effluent in order to create a flow whereby the facility discharged for less than 4 days and did not discharge for a 24-hr. period. This would allow the use of the acute wasteload allocations only in permit limit calculation. DEQ staff determined that sufficient rationale was not present to eliminate the potential of instream chronic toxicity concerns based on the size of the design flow, discharge intervals, and receiving stream characteristics, among other factors. In any event, this approach did not make a difference in the copper limit. The ammonia limit was higher, but because there is a TKN limit in the permit, and ammonia is a component of TKN, the permittee would have a defacto ammonia limit.

f. The permittee requested on September 26, 2007 and again on October 11, 2007 an application waiver for waiting 4 additional months to collect the third BOD and TSS composite sampling on the grounds that the three samples taken in the fall adequately characterized their wastewater discharge. The water permit manager denied the requests, saying that adequate time was allowed for the additional sampling

before the permit expires in June 2008. The permittee submitted that page with the sampling shown on February 4, 2008.

g. An internal review comment was made regarding sulfide. Because the water quality standard (for hydrogen sulfide) is very low (2 ug/l), the comment was made to require the permittee to resample sulfide at a lower quantification limit (QL). An email from Curtis Linderman on May 6, 2008 detailed that if the evaluated data are either: a) all reported as "<QL" (regardless of QL, as long as an approved method is used); or b) measured data that would not result in a limit; it is recommended that no monitoring be required at this time. CVCCW submitted a sulfide result of <1.0 using an approved method, so no further requirement is being made. DEQ – Central Office will consult with other states and EPA in order to develop a final permitting strategy for sulfide.

h. Steve Spence was asked about the status of the lagoon at the CVCCW site. He said that it had been closed out and disconnected from the treatment train when the facility upgraded from 0.055 MGD to 0.065 MGD. Presently, it is operating as a stormwater BMP. No further action is necessary at this time. Documentation that was sent pursuant to this discussion has been added to the permit application.

i. The EPA Checklist may be found in **Attachment H**.

j. The permit was not signed at the completion of the public notice period because the Appomattox River TMDL had not yet been modified to include this discharge. The permit expired before it was reissued because of this issue and a delay experienced while a protocol for the evaluation of sulfide limitations was established between central office and the water permit managers.

28. Public Comment: No comments were received.

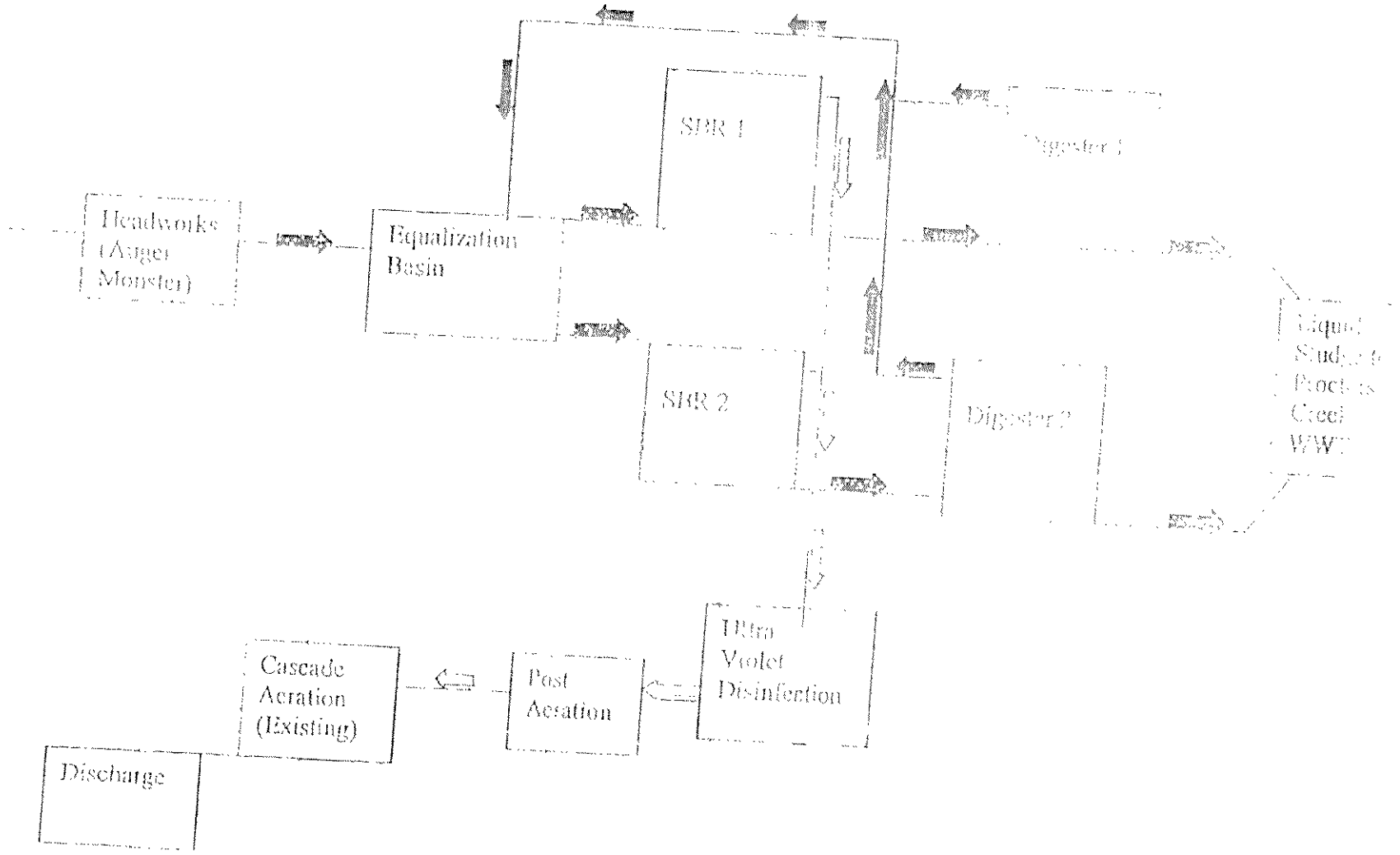
29. 303(d) Listed Segments (TMDL):
This facility directly discharges to an unnamed tributary which was not assessed in the 2006 305(b)/303(d) Integrated Report. However, the facility received an E. coli wasteload allocation (WLA) in the "Total Maximum Daily Load (TMDL) Development for the Appomattox River Basin" Report, which was approved by EPA on August 30, 2004 and approved by the State Water Control Board on December 20, 2005. The facility received a WLA of 9.59E+10 E. coli cfu/year based on their previous discharge flow of 0.055 MGD. A Certificate to Operate (CTO) for the 0.065 MGD facility was issued on September 23, 2004. The TMDL was modified to adjust the WLA for the current flow of 0.065 MGD. The TMDL modification was approved by the EPA on January 5, 2009. The facility received a wasteload allocation of 1.13E11 E. coli cfu/year. This permit has monthly average limits of 126 N/100ml for E. coli that require compliance with the standard prior to discharge. Compliance with the limitation ensures compliance with the TMDL.

List of Attachments:
Attachment A – Treatment Plant Schematic
Attachment B –Topo Map
Attachment C – Flow Frequency and 303 (d) Status Determination
Attachment D – Inspection Report
Attachment E – Stream Sanitation Analyses, VDH bacteria memo, Stream Pereniality Study
Attachment F – MSTRANTI and STATS print outs
Attachment G –2007 Pollutant Scans
Attachment H – EPA checklist

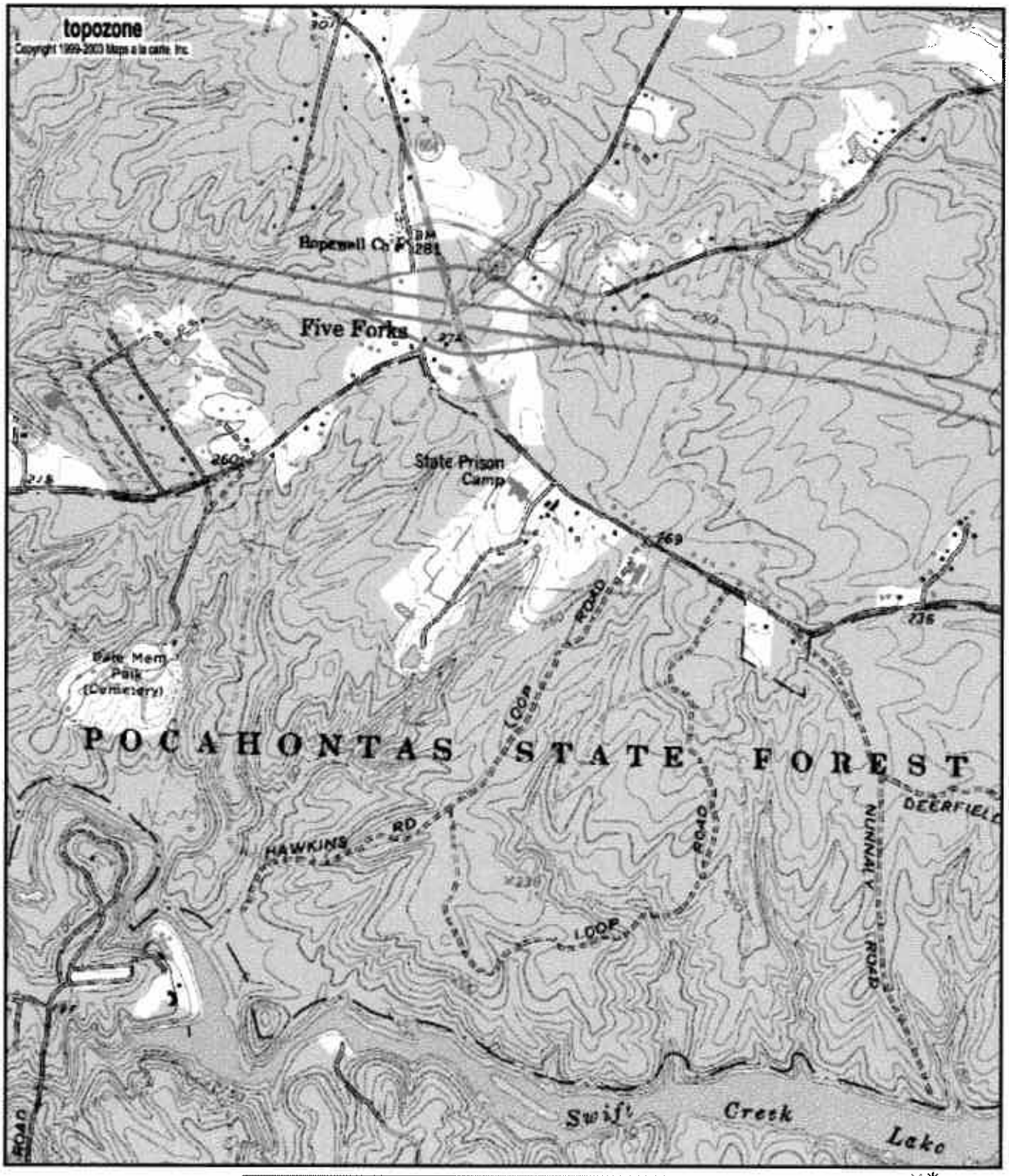
ATTACHMENT A

Pocahontas Wastewater Treatment Plant Flow Diagram

0.065 MGD



ATTACHMENT B



0 0.3 0.6 0.9 1.2 1.5 km

0 0.2 0.4 0.6 0.8 1 mi

37° 24' 02"N, 77° 33' 49"W (NAD83/WGS84)

USGS Chesterfield (VA) Quadrangle

Projection is UTM Zone 18 NAD83 Datum

M=-9.951
G=-1.558

ATTACHMENT C

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office
4949-A Cox Road Glen Allen, Virginia 23060

SUBJECT: Flow Frequency and 303(d) Status Determination
DOC Pocahontas WWTP – VA0023426

TO: Denise M. Mosca

FROM: Jennifer V. Palmore, P.G.

DATE: October 3, 2007

COPIES: File; Mark Alling

The Pocahontas Correctional Center's wastewater treatment plant discharges to an unnamed tributary of Swift Creek near Five Forks in Chesterfield County, VA. The discharge is located at rivermile 2-XDB001.00. Stream flow frequencies and the current 303(d) status have been requested at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The USGS Chesterfield Quadrangle shows the receiving stream to be an intermittent stream. The flow frequencies for intermittent streams are listed below:

Outfall 001:

1Q30 = 0.00 cfs	High Flow 1Q10 = 0.0 cfs
1Q10 = 0.0 cfs	High Flow 7Q10 = 0.0 cfs
7Q10 = 0.0 cfs	High Flow 30Q10 = 0.0 cfs
30Q10 = 0.0 cfs	HM = 0.0 cfs
30Q5 = 0.0 cfs	Annual Average = 0.0 cfs

The unnamed tributary was not assessed in the 2006 305(b)/303(d) Integrated Report. However, the facility received an E.coli wasteload allocation (WLA) in the "Total Maximum Daily Load Development for the Appomattox River Basin" report, which was approved by EPA on 8/30/2004 and approved by the SWCB on 12/20/2005. The facility received a WLA of 9.59E+10 E. coli cfu/year based on their previous discharge of 0.055 MGD. A TMDL modification will be required if the facility needs an expansion of their WLA because of their current flow of 0.065 MGD.

If you have any questions concerning this analysis or need additional information, please let me know.

Mosca,Denise

From: Alling,Mark
Sent: Wednesday, November 28, 2007 2:50 PM
To: Mueller,Sandra
Cc: Lazarus,David; Lott,Craig; Mosca,Denise; Bauer,Jaime; Linderman,Curtis
Subject: Two public notices for the VA Register published on Dec. 24, 2007

Sandy, Here are two public notices for the Dec. 24, 2007 VA Register. Please email with any questions. Thanx!

NOTICE OF PUBLIC COMMENT
BACTERIA TOTAL DAILY MAXIMUM LOADS FOR
THE APPOMATTOX RIVER BASIN
ISSUED: December 24, 2007
COMMENT PERIOD CLOSES: January 23, 2008

Notice is hereby given that the State Water Control Board seeks comment on proposed modifications to the bacteria Total Maximum Daily Load (TMDL) developed for the Appomattox River Basin in Appomattox, Buckingham, Cumberland, Prince Edward, Amelia, Nottoway, Powhatan, Chesterfield, Dinwiddie and Prince George Counties and Cities of Petersburg, Colonial Heights and Hopewell.

The total maximum daily load of *E. coli* was developed to address bacterial impairment in the Appomattox River Basin. The TMDL was approved by the Environmental Protection Agency (EPA) on 8/30/2004 and can be found at the following website: http://gisweb.deq.virginia.gov/tmdlapp/tmdl_report_result.cfm.

The Virginia Department of Environmental Quality (VDEQ) seeks written comments from interested persons on the modification of this TMDL. In 2004, after approval of the Appomattox River Basin Bacterial TMDL by the U.S. Environmental Protection Agency and the State Water Control Board, the DOC Pocahontas WWTP, VA0023426, was issued a Certificate to Operate at 0.65 mgd. The TMDL needs to reflect the expanded design flow of 0.65 mgd, rather than the 0.55 mgd design flow in effect during TMDL development. VDEQ proposes to modify the wasteload allocation and TMDL to accommodate this expansion at a permitted *E. coli* concentration of 126 cfu/100ml. To review the proposed revisions to the wasteload allocation tables and TMDL equation tables, please contact Mark Alling using the contact information below.

For the bacterial TMDL, the proposed increase will not cause a water quality violation because Virginia's Water Quality Standards for bacteria require that treated effluent discharged into a receiving stream meet the bacteria criteria for the stream. The EPA considers a less than 1% change to the TMDL to be insignificant. The proposed increase in the wasteload allocation for this facility will be 0.002% of the TMDL.

The public comment period for this modification will end on January 23, 2008. Questions or information requests should be addressed to Mark Alling. Written comments should include the name, address, and telephone number of the person submitting the comments and should be sent to Mark Alling, Piedmont Regional Office, Department of Environmental Quality, 4949-A Cox Road, Glen Allen, VA 23060, telephone (804) 527-5021, or email msalling@deq.virginia.gov.

ATTACHMENT D

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road Glen Allen, VA 23060 **804/527-5020**

Memo to: File
From: D. Mosca
Date: December 5, 2007
Re: Central Virginia Correctional Center for Women WWTP VA0023426 Site Visit

I performed an announced inspection on December 5, 2007 of the Central Virginia Correctional Center for Women (CVCCW) WWTP for the purpose of verifying the application and to observe the discharge point. I met the DOC Environmental Manager Steve Spence and the two operators, Jim Good and Don Bickhardt at the new laboratory for the facility. The laboratory was constructed with the latest upgrade, for which the CTO was issued on September 23, 2004. We discussed sampling that had taken place for the permit application but did not meet the specified quantification limits (QLs). Corrections staff indicated that they would take additional samples at the correct QLs. The facility name has changed from Pocahontas Correctional to CVCCW as there is a new prison in the western part of the state named Pocahontas in Pocahontas County. We talked about bacteria limits and Corrections indicated that the VDH was willing to drop the fecal sampling as long as the E. coli sampling was maintained. We walked around the facility. The SBR unit was placed near by the practice firing range, separated by a stand of trees. A lagoon that was used in the former treatment scheme had not yet been closed out. There are chlorination and dechlorination facilities nearby the outfall. We observed the discharge location. There was a slight flow upstream of the discharge. The discharge location appeared to be in good condition.

ATTACHMENT E

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Piedmont Regional Office

4949-A Cox Road, Glen Allen, VA 23060-6296 804/527-5020

SUBJECT: Stream Sanitation Analysis – Swift Creek, UT
Proposed Discharge Flow Increase
Pocahontas Correctional Unit #13 (VA0023426)

TO: Curt Linderman

FROM: Jennifer Palmore JVP

DATE: February 26, 2002

COPIES: Norman Little, File

Background

A stream sanitation analysis request for the Pocahontas Correctional Center discharge in Chesterfield County was received January 29, 2002. The facility is currently permitted (VA0023426) to discharge to an unnamed tributary of Swift Creek at the headwaters of Swift Creek Lake. The stream sanitation analysis request was submitted because the permittee proposes to increase the permitted flow from 0.055 MGD to 0.065 MGD. The discharge is currently prohibited from Memorial Day through Labor Day when Pocahontas State Park swimming area in Swift Creek Lake is open, but the permittee has requested that they be allowed to discharge year-round.

Results and Recommendations

At the current discharge location, the unnamed tributary is considered to be intermittent under low flow conditions. Under these conditions, the Regional Model v. 4.1 is not considered to be applicable, and current DEQ practice is to recommend effluent limits at least as stringent as DEQ-adopted swamp limits (A.J. Anthony's memorandum, 1987) to maintain dissolved oxygen (DO) concentrations above the water quality standard in the receiving stream. Therefore, the following effluent limits are recommended for the increased discharge:

Flow:	0.065 MGD
$cBOD_5$:	10.0 mg/L
TKN:	3.0 mg/L
DO:	5.0 mg/L

If you have any questions or require additional information, please do not hesitate to contact me.

Carpenter,Emilee

From: Mosca,Denise
Sent: Friday, February 22, 2008 8:33 AM
To: Carpenter,Emilee
Subject: FW: VPDES Permit - Pocahontas Correctional Unit - Fecal Coliform and E-Coli Limits

-----Original Message-----
From: Morrissette, Randall (VDH)
Sent: Fri 12/14/2007 4:25 PM
To: Mosca,Denise
Cc: Ragnauth, Bennett (VDH); Spence, Steve O. (VADOC)
Subject: VPDES Permit - Pocahontas Correctional Unit - Fecal Coliform and E-Coli Limits

Denise,

I have discussed with my supervisor, Bennett Ragnauth, the fecal coliform bacteria and e-coli bacteria monitoring requirements proposed for the VPDES permit for Pocahontas Correctional Unit in Chesterfield County.

Since the proposed e-coli bacteria limit is 126 colonies/100 ml (1 day/week, year round), and the proposed fecal coliform bacteria limit is 200 colonies/100 ml (2 days/week, April-October), we have no objection to the deletion of the fecal coliform limit.

If you need a letter stating this, please let me know.

Randy Morrissette

VA0023426

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December 31, 2007

P.N. 94020.30

Mr. James Schrecengost
Virginia Department of Corrections
A & E Services
6900 Atmore Drive
Richmond, Virginia 23225

RE: Stream Perenity Study
Virginia Department of Corrections
Central Virginia Correctional Unit #13
Chesterfield County, Virginia

Dear Mr. Schrecengost:

In accordance with your request, Resource has completed the stream classification requirement for your Virginia Department of Environmental Quality (VDEQ) Virginia Pollutant Discharge Elimination System Permit (VPDES). Enclosed are copies of the completed Stream Classification Forms for three stream segments that occur on or adjacent to the existing discharge point. In conjunction with the forms, two maps of the project are provided that identify the locations of stream segments, which correlate to the lettered stream segment on each form.

Methodology

Resource wetland scientists conducted this study using the *North Carolina Division of Water Quality (NCDWQ) Identification Methods for the Origins of Intermittent and Perennial Streams (Version 3.1)*. The NCDWQ Method is based on the general principles outlined in several resources, including guidance the U.S. Army Corps of Engineers. This method uses geomorphic, hydrological, and biological stream features that distinguish between ephemeral, intermittent, and perennial stream channels. Based on an overall qualitative scoring system, a point value below 30 is considered intermittent, and a score of 30 is considered perennial. Any scores within 3 points of this minimum threshold allow for best professional judgment from the field investigator.

Table 1 presents a ratings scale and classifications for each type of drainage, in accordance with the NCDWQ Identification Methods for the Origins of Intermittent and Perennial Streams.

9560 Kings Charter Drive • P.O. Box 6160 • Ashland, VA 23005-6160
(804) 550-9200 • Fax (804) 550-9259
www.resourceintl.com

Table 1: NCDWQ Stream Classification Rating System

Classification	Rating
Ephemeral	0<19
Intermittent	≥19 to <30
Perennial	≥30

Stream Resources

The United States Geological Survey (USGS) 7.5 – minute topographical quadrangle maps for Chesterfield, Virginia depicts the stream channel at the discharge point and directing surface flow to Swift Creek Lake as an unnamed intermittent stream resource. This stream conveys flow in a southerly direction toward Swift Creek Lake (see Figure 1).

Results

Perennial Stream Flow Determination

The results derived from the application of the NCDWQ Method for the Central Virginia Correctional Unit #13 are presented in Table 2. These results are also presented on the attached Perennial Stream Assessment Map (Figures 1), which depicts the individual reach locations. Copies of the field data sheets are included as an attachment. Representative photographs, taken along the evaluated reach during the field investigations, are attached as well. All photographs included were taken during the field investigation on December 20, 2007.

Resource wetland scientists completed the field data collections for application of the field indicator protocol on December 20, 2007. The NCDWQ Method recommends that data not be collected upon receiving 0.25 inches of rainfall in the preceding 48 hours. This recommendation is intended to remove any bias developed from abnormally high water levels. Additionally, metrics within the protocols cannot be scored when significant rainfall occurs before data collection. According to the National Climatic Data Center (NCDC) daily rain gauge data collected in Richmond, Virginia, 0.02 inches of rainfall was received the day before the assessment, which is below the 0.25 inch threshold. Richmond, Virginia was 8.01 inches behind normal rainfall for the 2007 year at the time of data collection on December 20, 2007.

Reach A1 – This reach, located approximately 250 feet downstream of the discharge point, was determined to be perennial, scoring 37 points. The attached Photostations 1 and 2 are representative of this reach. This stream flows in a southwesterly direction toward Swift Creek Lake and its connected perennial systems. The geomorphology and hydrology indicators that scored strong included continuous bed and bank, sinuosity, in-channel structure - riffle-pool sequence, soil texture or stream substrate sorting, depositional bars or benches, recent alluvial deposits, grade controls, and groundwater flow/discharge. Moderate indicators included active/relic floodplain and leaflitter, and finally, weak indicators included organic debris lines or piles (wrack lines) and water in channel and > 48 hrs since rain. This first order channel rated

weak in biological features, and included the following ratings: weak presence of fish, filamentous algae; and moderate presence of macrobenthos. Several features were not observed during the assessment, including braided channel, headcuts, natural levees, sediment on plants or debris, rooted plants in the channel, crayfish, bivalves, amphibians, iron oxidizing bacteria/fungus, and wetland plants in streambed.

Reach A2 – This reach, located at the discharge point for the facility and upstream of Reach A1, was determined to be perennial, scoring 39 points. The attached Photostations 3 and 4 are representative of this reach. This stream flows in a southwesterly direction toward Swift Creek Lake and its connect perennial systems. The geomorphology and hydrology indicators that scored strong included continuous bed and bank, sinuosity, in-channel structure - riffle-pool sequence, soil texture or stream substrate sorting, depositional bars or benches, recent alluvial deposits, grade controls, and groundwater flow/discharge. Moderate indicators included active/relic floodplain, and finally, weak indicators included organic debris lines or piles (wrack lines), leaf litter, and water in channel and > 48 hrs since rain. This first order channel rated weak in biological features, and included the following ratings: weak presence of filamentous algae; and moderate presence of macrobenthos. Several features were not observed during the assessment, including braided channel, natural levees, sediment on plants or debris, rooted plants in channel, crayfish, fish, bivalves, amphibians, iron oxidizing bacteria/fungus, and wetland plants in streambed.

Reach A3 – This reach, located approximately 1,600 linear feet northeast of the discharge point for the facility, was determined to be intermittent, scoring 25.5 points. The attached Photostation 5 is representative of this reach. This stream flows in a southwesterly direction, past the discharge point, toward Swift Creek Lake and downstream a perennial stream systems. The geomorphology and hydrology indicators that scored strong included continuous bed and bank and sinuosity. Moderate indicators included soil texture or stream substrate sorting, active/relic floodplain, and leaf litter. Weak indicators included in-channel structure, depositional bars or benches, recent alluvial deposits, headcuts, grade controls, sediment on plants and debris, and organic debris lines or piles (wrack lines). This first order channel rated weak in biological features, and included the following ratings: weak presence of iron oxidizing bacteria/fungus, and macrobenthos. Several features were not observed during the assessment, including braided channel, natural levees, groundwater flow/discharge, and water in channel and > 48 hrs since rain, rooted plants in channel, crayfish, fish, bivalves, amphibians, filamentous algae and wetland plants in streambed. Hydric soil features (redoximorphic features) were observed in the stream bed soils, which indicated that the stream does dry for a period of time sufficient for oxidation to occur in the soil.

Table 2
Summary of NCDWQ Stream Identification Assessment for Field Indicators by Reach

Field Indicators	Maximum Points	Points By Reach		
		A1 (Downstream)	A2 (Discharge point)	A3 (Upstream)
Geomorphology	36	23	24	25.5
Hydrology	10.5	6.5	7	3
Biology	15.5	7.5	8	6.5
Total Score	**62**	**37**	**39**	**25.5**
Perennial Flow		Yes	Yes	No

Conclusions

Based on the aforementioned results, it is the opinion of Resource that the prevailing flow regimes within, upstream and downstream of areas directly adjacent to the discharge point are perennial, Reaches A1 and A2 respectively. The subject stream was assessed downstream/offsite to verify and confirm the perenniality of the stream to the confluence of the stream and Swift Creek. No disconnects were found and no changes in stream geomorphology, hydrology, or biology were found to be significant. The attached Photostations 1, 2, 3, 4, and 6 are representative of this reach. The subject stream is perennial as it crosses the subject property. The nearest intermittent portion of the stream bed is approximately 1,600 linear feet northeast of the existing discharge point.

As shown on the Figure 1, the unnamed tributary of Swift Creek Lake, which serves as the western property boundary, is depicted as a "three-dot blue line" intermittent stream on the Chesterfield, Virginia United States Geological Survey (USGS) topographic map. I trust that the information provided meets your needs. If you have any questions, or need additional services, please do not hesitate to call.

Sincerely,

B. Meredith Winn, Jr. / for TJK

Thaddeus J. Kraska, PWD
Project Scientist
Virginia Certified Professional Wetland Delineator, #4

/rr
Enclosures

cc: Mr. Stephen O. Spence, Nottoway Correctional Center
B. Meredith Winn, Jr., P.E., Resource International

Photostation 1: Perennial stream section north of reach A1. Photo taken 12/20/2007

Photostation 2: Perennial Stream section at reach A1. Photo taken 12/20/2007

Photostation 3: Perennial stream section north of reach A2. Photo taken 12/20/2007

Photostation 4: Perennial stream section north of reach A2. Photo taken 12/20/2007

Photostation 5: Intermittent stream section at reach A3. Photo taken 12/20/2007

Photostation 6: Perennial stream section north of confluence at Swift Creek Lake. Photo taken 12/20/2007

North Carolina Division of Water Quality – Stream Identification Form; Version 3.1

Date: December 20, 2007	**Project:** 94020.30	**Latitude:** 37° 23′ 47.14" W
Evaluator: Thaddeus J. Kraska, Ryan D. Knisley	**Site:** PWD Central Virginia Correctional Unit #13	**Longitude:** 77° 34′ 3.745" W
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30* 37	**County:** Chesterfield, VA	**Other** Reach A1 *e.g. Quad Name:*

A. Geomorphology (Subtotal = 23)	Absent	Weak	Moderate	Strong
1[a]. Continuous bed and bank	0	1	2	(3)
2. Sinuosity	0	1	2	(3)
3. In-channel structure: riffle-pool sequence	0	1	2	(3)
4. Soil texture or stream substrate sorting	0	1	2	(3)
5. Active/relic floodplain	0	1	(2)	3
6. Depositional bars or benches	0	1	2	(3)
7. Braided channel	(0)	1	2	3
8. Recent alluvial deposits	0	1	2	(3)
9[a] Natural levees	(0)	1	2	3
10. Headcuts	(0)	1	2	3
11. Grade controls	0	0.5	1	(1.5)
12. Natural valley or drainageway	0	0.5	1	(1.5)
13. Second or greater order channel on existing USGS or NRCS map or other documented evidence.	(No = 0)		Yes = 3	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 6.5)				
14. Groundwater flow/discharge	0	1	2	(3)
15. Water in channel and > 48 hrs since rain, or Water in channel – dry or growing season	0	(1)	2	3
16. Leaflitter	1.5	1	(0.5)	0
17. Sediment on plants or debris	(0)	0.5	1	1.5
18. Organic debris lines or piles (Wrack lines)	0	(0.5)	1	1.5
19. Hydric soils (redoximorphic features) present?	No = 0		(Yes = 1.5)	

C. Biology (Subtotal = 7.5)				
20[b]. Fibrous roots in channel	3	(2)	1	0
21[b]. Rooted plants in channel	(3)	2	1	0
22. Crayfish	(0)	0.5	1	1.5
23. Bivalves	(0)	1	2	3
24. Fish	0	(0.5)	1	1.5
25. Amphibians	(0)	0.5	1	1.5
26. Macrobenthos (note diversity and abundance)	0	0.5	(1)	1.5
27. Filamentous algae; periphyton	0	(1)	2	3
28. Iron oxidizing bacteria/fungus.	(0)	0.5	1	1.5
29[b]. Wetland plants in streambed	FAC = 0.5; FACW = 0.75; OBL = 1.5 SAV = 2.0; Other = (0)			

[b] Items 20 and 21 focus on the presence of upland plants, Item 29 focuses on the presence of aquatic or wetland plants.

Notes: (use back side of this form for additional notes.)

Sketch:

Caddisfly family Hydropsychidae, Dragonfly family Aeshnidae, and Dipteran Fly family Simuliidae observed for macrobenthos.

Macrobenthos moderately abundant and found immediately.

North Carolina Division of Water Quality – Stream Identification Form; Version 3.1

Date: December 20, 2007	**Project:** 94020.30	**Latitude:** 37° 23′ 48.8″ N
Evaluator: Thaddeus J. Kraska, Ryan D. Knisley	**Site:** PWD Central Virginia Correctional Unit #13	**Longitude:** 77° 34′ 1.33″ W
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30* 39	**County:** Chesterfield, VA	**Other** Reach A2 *e.g. Quad Name:*

A. Geomorphology (Subtotal = 24)	Absent	Weak	Moderate	Strong
1[a]. Continuous bed and bank	0	1	2	(3)
2. Sinuosity	0	1	2	(3)
3. In-channel structure: riffle-pool sequence	0	1	2	(3)
4. Soil texture or stream substrate sorting	0	1	2	(3)
5. Active/relic floodplain	0	1	(2)	3
6. Depositional bars or benches	0	1	2	(3)
7. Braided channel	(0)	1	2	3
8. Recent alluvial deposits	0	1	2	(3)
9[a] Natural levees	(0)	1	2	3
10. Headcuts	0	(1)	2	3
11. Grade controls	0	0.5	1	(1.5)
12. Natural valley or drainageway	0	0.5	1	(1.5)
13. Second or greater order channel on existing USGS or NRCS map or other documented evidence.	(No = 0)		Yes = 3	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 7)				
14. Groundwater flow/discharge	0	1	2	(3)
15. Water in channel and > 48 hrs since rain, or Water in channel -- dry or growing season	0	(1)	2	3
16. Leaflitter	1.5	(1)	0.5	0
17. Sediment on plants or debris	(0)	0.5	1	1.5
18. Organic debris lines or piles (Wrack lines)	0	(0.5)	1	1.5
19. Hydric soils (redoximorphic features) present?	No = 0		(Yes = 1.5)	

C. Biology (Subtotal = 8)				
20[b]. Fibrous roots in channel	(3)	2	1	0
21[b]. Rooted plants in channel	(3)	2	1	0
22. Crayfish	(0)	0.5	1	1.5
23. Bivalves	(0)	1	2	3
24. Fish	(0)	0.5	1	1.5
25. Amphibians	(0)	0.5	1	1.5
26. Macrobenthos (note diversity and abundance)	0	0.5	(1)	1.5
27. Filamentous algae; periphyton	0	(1)	2	3
28. Iron oxidizing bacteria/fungus.	(0)	0.5	1	1.5
29[b]. Wetland plants in streambed	FAC = 0.5; FACW = 0.75; OBL = 1.5 SAV = 2.0; Other = (0)			

[b] Items 20 and 21 focus on the presence of upland plants, Item 29 focuses on the presence of aquatic or wetland plants.

Notes: (use back side of this form for additional notes.)

Sketch:

Caddisfly family Hydropsychidae, Dragonfly family Aeshnidae, and Dipteran Fly family Simuliidae observed for macrobenthos.

Macrobenthos moderately abundant and found immediately.

North Carolina Division of Water Quality – Stream Identification Form; Version 3.1

Date: December 20, 2007	**Project:** 94020.30	**Latitude:** 37° 24′ 0.223″ N
Evaluator: Thaddeus J. Kraska, Ryan D. Knisley	**Site:** PWD Central Virginia Correctional Unit #13	**Longitude:** 77° 33′ 48.95″ W
Total Points: *Stream is at least intermittent if ≥ 19 or perennial if ≥ 30* 25.5	**County:** Chesterfield, VA	**Other** Reach A3 *e.g. Quad Name:*

A. Geomorphology (Subtotal = 16)	Absent	Weak	Moderate	Strong
1[a]. Continuous bed and bank	0	1	2	(3)
2. Sinuosity	0	1	2	(3)
3. In-channel structure: riffle-pool sequence	0	(1)	2	3
4. Soil texture or stream substrate sorting	0	1	(2)	3
5. Active/relic floodplain	0	1	(2)	3
6. Depositional bars or benches	0	(1)	2	3
7. Braided channel	(0)	1	2	3
8. Recent alluvial deposits	0	(1)	2	3
9[a] Natural levees	(0)	1	2	3
10. Headcuts	0	(1)	2	3
11. Grade controls	0	(0.5)	1	1.5
12. Natural valley or drainageway	0	0.5	1	(1.5)
13. Second or greater order channel on existing USGS or NRCS map or other documented evidence.	(No = 0)		Yes = 3	

[a] Man-made ditches are not rated; see discussions in manual

B. Hydrology (Subtotal = 3)				
14. Groundwater flow/discharge	(0)	1	2	3
15. Water in channel and > 48 hrs since rain, or Water in channel – dry or growing season	(0)	1	2	3
16. Leaflitter	1.5	1	(0.5)	0
17. Sediment on plants or debris	0	(0.5)	1	1.5
18. Organic debris lines or piles (Wrack lines)	0	(0.5)	1	1.5
19. Hydric soils (redoximorphic features) present?	No = 0		(Yes = 1.5)	

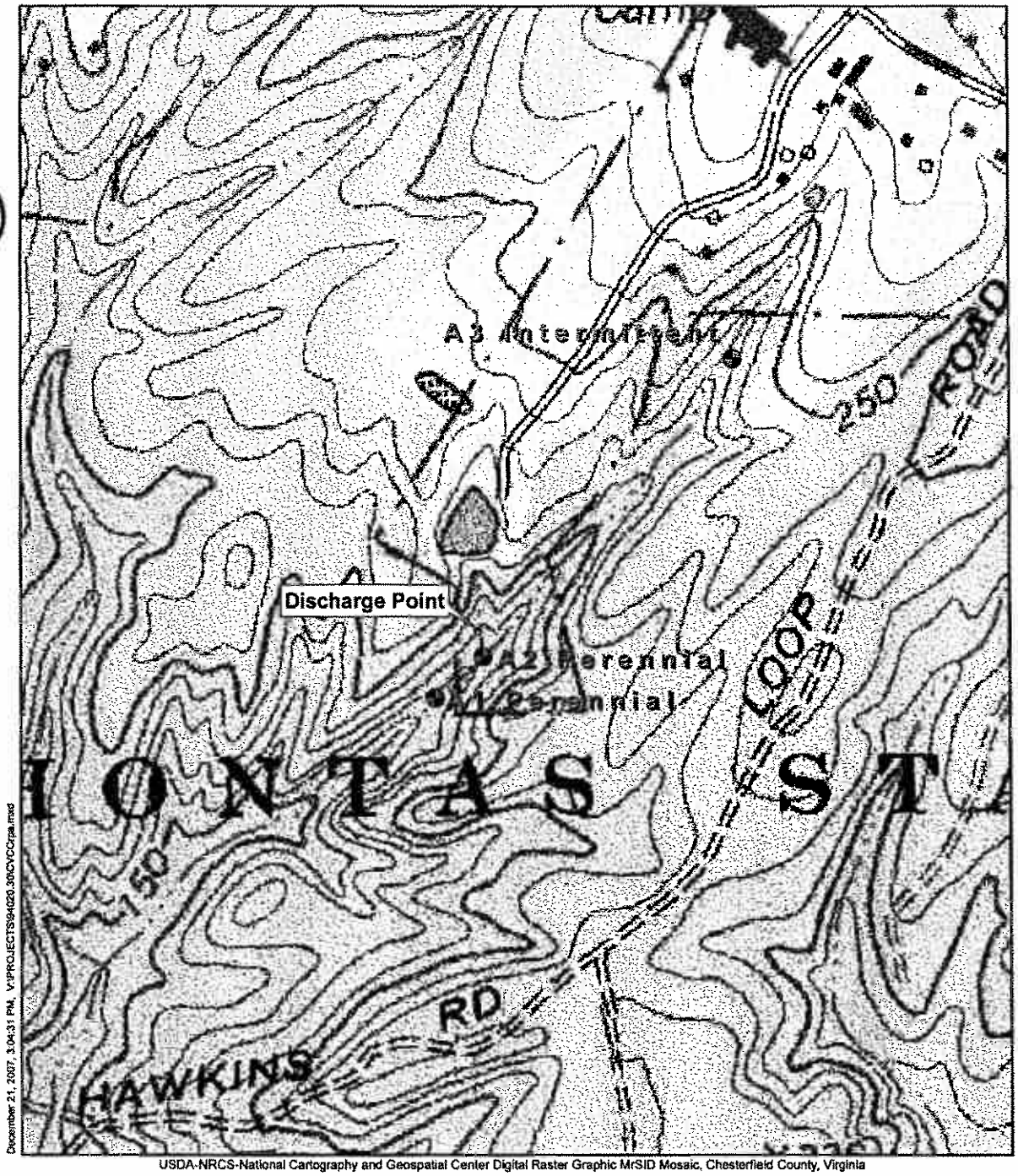
C. Biology (Subtotal = 6.5)				
20[b]. Fibrous roots in channel	(3)	2	1	0
21[b]. Rooted plants in channel	(3)	2	1	0
22. Crayfish	(0)	0.5	1	1.5
23. Bivalves	(0)	1	2	3
24. Fish	(0)	0.5	1	1.5
25. Amphibians	(0)	0.5	1	1.5
26. Macrobenthos (note diversity and abundance)	0	(0.5)	1	1.5
27. Filamentous algae; periphyton	(0)	1	2	3
28. Iron oxidizing bacteria/fungus.	(0)	0.5	1	1.5
29[b]. Wetland plants in streambed	FAC = 0.5; FACW = 0.75; OBL = 1.5 SAV = 2.0; Other = (0)			

[b] Items 20 and 21 focus on the presence of upland plants, Item 29 focuses on the presence of aquatic or wetland plants.

Notes: (use back side of this form for additional notes.)

None.

Sketch:



USDA-NRCS-National Cartography and Geospatial Center Digital Raster Graphic MrSID Mosaic, Chesterfield County, Virginia

0 600 1,200 1,800 2,400

Feet

NOTE: ALL LOCATIONS ARE APPROXIMATE

Figure 1
Stream Pereniality Study
USGS Quadrangle Chesterfield 37077-D5
Virginia Department of Corrections
Central Virginia Correctional Center
Chesterfield, VA

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ATTACHMENT F

CVCCW VA00023426

Station ID	Date	Max pH from DMR, S.U.
	10/10/2004	7.1
	11/10/2004	8.4
	12/10/2004	7.6
	1/10/2005	7.5
	2/10/2005	7.8
	3/10/2005	8.1
	4/10/2005	8.4
	5/10/2005	8
	6/10/2005	8.4
	7/10/2005	7.9
	8/10/2005	8.4
	9/10/2005	8
	10/10/2005	8
	11/10/2005	8
	12/10/2005	7.7
	1/10/2006	7.3
	2/10/2006	7.4
	3/10/2006	7.1
	4/10/2006	7
	5/10/2006	7
	6/10/2006	7.1
	7/10/2006	7
	8/10/2006	6.9
	9/10/2006	6.9
	10/10/2006	7.1
	11/10/2006	7.1
	12/10/2006	6.9
	1/10/2007	6.9
	2/10/2007	7.1
	3/10/2007	6.9
	4/10/2007	6.9
	5/10/2007	6.9
	6/10/2007	6.9
	7/10/2007	6.8
	8/10/2007	7.4
	9/10/2007	7
	10/10/2007	6.9
	11/10/2007	6.9
		8.19
		90th %ile
		6.9
		10th %ile

FRESHWATER
WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: CVCCW Permit No.: VA0023426

Receiving Stream: UT Swift Creek Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO3) =	mg/L	1Q10 (Annual) =	0 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO3) =	81 mg/L
90% Temperature (Annual) =	deg C	7Q10 (Annual) =	0 MGD	- 7Q10 Mix =	100 %	90% Temp (Annual) =	27 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	0 MGD	- 30Q10 Mix =	100 %	90% Temp (Wet season) =	deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	0 MGD	Wet Season - 1Q10 Mix =	100 %	90% Maximum pH =	8.19 SU
10% Maximum pH =	SU	30Q10 (Wet season)	0 MGD	- 30Q10 Mix =	100 %	10% Maximum pH =	6.9 SU
Tier Designation (1 or 2) =	1	30Q5 =	0 MGD			Discharge Flow =	0.065 MGD
Public Water Supply (PWS) Y/N? =	N	Harmonic Mean =	0 MGD				
Trout Present Y/N? =	N	Annual Average =	0 MGD				
Early Life Stages Present Y/N? =	Y						

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenapthene	0	--	--	na	2.7E+03	--	--	na	2.7E+03	--	--	--	--	--	--	--	--	--	--	na	2.7E+03
Acrolein	0	--	--	na	7.8E+02	--	--	na	7.8E+02	--	--	--	--	--	--	--	--	--	--	na	7.8E+02
Acrylonitrile [C]	0	--	--	na	6.6E+00	--	--	na	6.6E+00	--	--	--	--	--	--	--	--	--	--	na	6.6E+00
Aldrin [C]	0	3.0E+00	--	na	1.4E-03	3.0E+00	--	na	1.4E-03	--	--	--	--	--	--	--	--	3.0E+00	--	na	1.4E-03
Ammonia-N (mg/l) (Yearly)	0	5.84E+00	8.15E-01	na	--	5.8E+00	8.1E-01	na	--	--	--	--	--	--	--	--	--	5.8E+00	8.1E-01	na	--
Ammonia-N (mg/l) (High Flow)	0	5.84E+00	1.82E+00	na	--	5.8E+00	1.8E+00	na	--	--	--	--	--	--	--	--	--	5.8E+00	1.8E+00	na	--
Anthracene	0	--	--	na	1.1E+05	--	--	na	1.1E+05	--	--	--	--	--	--	--	--	--	--	na	1.1E+05
Antimony	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
Arsenic	0	3.4E+02	1.5E+02	na	--	3.4E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	3.4E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene [C]	0	--	--	na	7.1E+02	--	--	na	7.1E+02	--	--	--	--	--	--	--	--	--	--	na	7.1E+02
Benzidine [C]	0	--	--	na	5.4E-03	--	--	na	5.4E-03	--	--	--	--	--	--	--	--	--	--	na	5.4E-03
Benzo (a) anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (b) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (k) fluoranthene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Benzo (a) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Bis2-Chloroethyl Ether	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Bis2-Chloroisopropyl Ether	0	--	--	na	1.7E+05	--	--	na	1.7E+05	--	--	--	--	--	--	--	--	--	--	na	1.7E+05
Bromoform [C]	0	--	--	na	3.6E+03	--	--	na	3.6E+03	--	--	--	--	--	--	--	--	--	--	na	3.6E+03
Butylbenzylphthalate	0	--	--	na	5.2E+03	--	--	na	5.2E+03	--	--	--	--	--	--	--	--	--	--	na	5.2E+03
Cadmium	0	3.1E+00	9.6E-01	na	--	3.1E+00	9.6E-01	na	--	--	--	--	--	--	--	--	--	3.1E+00	9.6E-01	na	--
Carbon Tetrachloride [C]	0	--	--	na	4.4E+01	--	--	na	4.4E+01	--	--	--	--	--	--	--	--	--	--	na	4.4E+01
Chlordane [C]	0	2.4E+00	4.3E-03	na	2.2E-02	2.4E+00	4.3E-03	na	2.2E-02	--	--	--	--	--	--	--	--	2.4E+00	4.3E-03	na	2.2E-02
Chloride	0	8.6E+05	2.3E+05	na	--	8.6E+05	2.3E+05	na	--	--	--	--	--	--	--	--	--	8.6E+05	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	1.9E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.9E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane[C]	0	--	--	na	3.4E+02	--	--	na	3.4E+02	--	--	--	--	--	--	--	--	--	--	na	3.4E+02
Chloroform [C]	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
2-Chloronaphthalene	0	--	--	na	4.3E+03	--	--	na	4.3E+03	--	--	--	--	--	--	--	--	--	--	na	4.3E+03
2-Chlorophenol	0	--	--	na	4.0E+02	--	--	na	4.0E+02	--	--	--	--	--	--	--	--	--	--	na	4.0E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	8.3E-02	4.1E-02	na	--	--	--	--	--	--	--	--	--	8.3E-02	4.1E-02	na	--
Chromium III	0	4.8E+02	6.2E+01	na	--	4.8E+02	6.2E+01	na	--	--	--	--	--	--	--	--	--	4.8E+02	6.2E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	1.6E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	1.6E+01	1.1E+01	na	--
Chromium, Total	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Copper	0	1.1E+01	7.5E+00	na	--	1.1E+01	7.5E+00	na	--	--	--	--	--	--	--	--	--	1.1E+01	7.5E+00	na	--
Cyanide	0	2.2E+01	5.2E+00	na	2.2E+05	2.2E+01	5.2E+00	na	2.2E+05	--	--	--	--	--	--	--	--	2.2E+01	5.2E+00	na	2.2E+05
DDD [C]	0	--	--	na	8.4E-03	--	--	na	8.4E-03	--	--	--	--	--	--	--	--	--	--	na	8.4E-03
DDE [C]	0	--	--	na	5.9E-03	--	--	na	5.9E-03	--	--	--	--	--	--	--	--	--	--	na	5.9E-03
DDT [C]	0	1.1E+00	1.0E-03	na	5.9E-03	1.1E+00	1.0E-03	na	5.9E-03	--	--	--	--	--	--	--	--	1.1E+00	1.0E-03	na	5.9E-03
Demeton	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Dibenz(a,h)anthracene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Dibutyl phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
Dichloromethane (Methylene Chloride) [C]	0	--	--	na	1.6E+04	--	--	na	1.6E+04	--	--	--	--	--	--	--	--	--	--	na	1.6E+04
1,2-Dichlorobenzene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,3-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
1,4-Dichlorobenzene	0	--	--	na	2.6E+03	--	--	na	2.6E+03	--	--	--	--	--	--	--	--	--	--	na	2.6E+03
3,3-Dichlorobenzidine[C]	0	--	--	na	7.7E-01	--	--	na	7.7E-01	--	--	--	--	--	--	--	--	--	--	na	7.7E-01
Dichlorobromomethane [C]	0	--	--	na	4.6E+02	--	--	na	4.6E+02	--	--	--	--	--	--	--	--	--	--	na	4.6E+02
1,2-Dichloroethane [C]	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
1,1-Dichloroethylene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
1,2-trans-dichloroethylene	0	--	--	na	1.4E+05	--	--	na	1.4E+05	--	--	--	--	--	--	--	--	--	--	na	1.4E+06
2,4-Dichlorophenol	0	--	--	na	7.9E+02	--	--	na	7.9E+02	--	--	--	--	--	--	--	--	--	--	na	7.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane[C]	0	--	--	na	3.9E+02	--	--	na	3.9E+02	--	--	--	--	--	--	--	--	--	--	na	3.9E+02
1,3-Dichloropropene	0	--	--	na	1.7E+03	--	--	na	1.7E+03	--	--	--	--	--	--	--	--	--	--	na	1.7E+03
Dieldrin [C]	0	2.4E-01	5.6E-02	na	1.4E-03	2.4E-01	5.6E-02	na	1.4E-03	--	--	--	--	--	--	--	--	2.4E-01	5.6E-02	na	1.4E-03
Diethyl Phthalate	0	--	--	na	1.2E+05	--	--	na	1.2E+05	--	--	--	--	--	--	--	--	--	--	na	1.2E+05
Di-2-Ethylhexyl Phthalate [C]	0	--	--	na	5.9E+01	--	--	na	5.9E+01	--	--	--	--	--	--	--	--	--	--	na	5.9E+01
2,4-Dimethylphenol	0	--	--	na	2.3E+03	--	--	na	2.3E+03	--	--	--	--	--	--	--	--	--	--	na	2.3E+03
Dimethyl Phthalate	0	--	--	na	2.9E+06	--	--	na	2.9E+06	--	--	--	--	--	--	--	--	--	--	na	2.9E+06
Di-n-Butyl Phthalate	0	--	--	na	1.2E+04	--	--	na	1.2E+04	--	--	--	--	--	--	--	--	--	--	na	1.2E+04
2,4 Dinitrophenol	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
2-Methyl-4,6-Dinitrophenol	0	--	--	na	7.65E+02	--	--	na	7.7E+02	--	--	--	--	--	--	--	--	--	--	na	7.7E+02
2,4-Dinitrotoluene [C]	0	--	--	na	9.1E+01	--	--	na	9.1E+01	--	--	--	--	--	--	--	--	--	--	na	9.1E+01
Dioxin (2,3,7,8-tetrachlorodibenzo-p-dioxin) (ppq)	0	--	--	na	1.2E-06	--	--	na	na	--	--	--	--	--	--	--	--	--	--	na	na
1,2-Diphenylhydrazine[C]	0	--	--	na	5.4E+00	--	--	na	5.4E+00	--	--	--	--	--	--	--	--	--	--	na	5.4E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	2.4E+02	2.2E-01	5.6E-02	na	2.4E+02	--	--	--	--	--	--	--	--	2.2E-01	5.6E-02	na	2.4E+02
Endosulfan Sulfate	0	--	--	na	2.4E+02	--	--	na	2.4E+02	--	--	--	--	--	--	--	--	--	--	na	2.4E+02
Endrin	0	8.6E-02	3.6E-02	na	8.1E-01	8.6E-02	3.6E-02	na	8.1E-01	--	--	--	--	--	--	--	--	8.6E-02	3.6E-02	na	8.1E-01
Endrin Aldehyde	0	--	--	na	8.1E-01	--	--	na	8.1E-01	--	--	--	--	--	--	--	--	--	--	na	8.1E-01

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	na	2.9E+04	--	--	na	2.9E+04	--	--	--	--	--	--	--	--	--	--	na	2.9E+04
Fluoranthene	0	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
Fluorene	0	--	--	na	1.4E+04	--	--	na	1.4E+04	--	--	--	--	--	--	--	--	--	--	na	1.4E+04
Foaming Agents	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor [C]	0	5.2E-01	3.8E-03	na	2.1E-03	5.2E-01	3.8E-03	na	2.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	2.1E-03
Heptachlor Epoxide[C]	0	5.2E-01	3.8E-03	na	1.1E-03	5.2E-01	3.8E-03	na	1.1E-03	--	--	--	--	--	--	--	--	5.2E-01	3.8E-03	na	1.1E-03
Hexachlorobenzene[C]	0	--	--	na	7.7E-03	--	--	na	7.7E-03	--	--	--	--	--	--	--	--	--	--	na	7.7E-03
Hexachlorobutadiene[C]	0	--	--	na	5.0E+02	--	--	na	5.0E+02	--	--	--	--	--	--	--	--	--	--	na	5.0E+02
Hexachlorocyclohexane Alpha-BHC[C]	0	--	--	na	1.3E-01	--	--	na	1.3E-01	--	--	--	--	--	--	--	--	--	--	na	1.3E-01
Hexachlorocyclohexane Beta-BHC[C]	0	--	--	na	4.6E-01	--	--	na	4.6E-01	--	--	--	--	--	--	--	--	--	--	na	4.6E-01
Hexachlorocyclohexane Gamma-BHC[C] (Lindane)	0	9.5E-01	na	na	6.3E-01	9.5E-01	--	na	6.3E-01	--	--	--	--	--	--	--	--	9.5E-01	--	na	6.3E-01
Hexachlorocyclopentadiene	0	--	--	na	1.7E+04	--	--	na	1.7E+04	--	--	--	--	--	--	--	--	--	--	na	1.7E+04
Hexachloroethane[C]	0	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene [C]	0	--	--	na	4.9E-01	--	--	na	4.9E-01	--	--	--	--	--	--	--	--	--	--	na	4.9E-01
Iron	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone[C]	0	--	--	na	2.6E+04	--	--	na	2.6E+04	--	--	--	--	--	--	--	--	--	--	na	2.6E+04
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Lead	0	9.1E+01	1.0E+01	na	--	9.1E+01	1.0E+01	na	--	--	--	--	--	--	--	--	--	9.1E+01	1.0E+01	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Manganese	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	na	5.1E-02	1.4E+00	7.7E-01	na	5.1E-02	--	--	--	--	--	--	--	--	1.4E+00	7.7E-01	na	5.1E-02
Methyl Bromide	0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--
Monochlorobenzene	0	--	--	na	2.1E+04	--	--	na	2.1E+04	--	--	--	--	--	--	--	--	--	--	na	2.1E+04
Nickel	0	1.5E+02	1.7E+01	na	4.6E+03	1.5E+02	1.7E+01	na	4.6E+03	--	--	--	--	--	--	--	--	1.5E+02	1.7E+01	na	4.6E+03
Nitrate (as N)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
N-Nitrosodimethylamine[C]	0	--	--	na	8.1E+01	--	--	na	8.1E+01	--	--	--	--	--	--	--	--	--	--	na	8.1E+01
N-Nitrosodiphenylamine[C]	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
N-Nitrosodi-n-propylamine[C]	0	--	--	na	1.4E+01	--	--	na	1.4E+01	--	--	--	--	--	--	--	--	--	--	na	1.4E+01
Parathion	0	6.5E-02	1.3E-02	na	--	6.5E-02	1.3E-02	na	--	--	--	--	--	--	--	--	--	6.5E-02	1.3E-02	na	--
PCB-1016	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1221	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1232	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1242	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1248	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1254	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB-1260	0	--	1.4E-02	na	--	--	1.4E-02	na	--	--	--	--	--	--	--	--	--	--	1.4E-02	na	--
PCB Total[C]	0	--	--	na	1.7E-03	--	--	na	1.7E-03	--	--	--	--	--	--	--	--	--	--	na	1.7E-03

Parameter	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
(ug/l unless noted)	Conc	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Pentachlorophenol [C]	0	7 9E+00	6 1E+00	na	8.2E+01	7 9E+00	6.1E+00	na	8 2E+01	--	--	--	--	--	--	--	--	**7.9E+00**	**6.1E+00**	na	**8.2E+01**
Phenol	0	--	--	na	4 6E+06	--	--	na	4.6E+06	--	--	--	--	--	--	--	--	--	--	na	**4.6E+06**
Pyrene	0	--	--	na	1.1E+04	--	--	na	1 1E+04	--	--	--	--	--	--	--	--	--	--	na	**1.1E+04**
Radionuclides (pCi/l except Beta/Photon)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Gross Alpha Activity	0	--	--	na	1 5E+01	--	--	na	1.5E+01	--	--	--	--	--	--	--	--	--	--	na	**1.5E+01**
Beta and Photon Activity (mrem/yr)	0	--	--	na	4 0E+00	--	--	na	4.0E+00	--	--	--	--	--	--	--	--	--	--	na	**4.0E+00**
Strontium-90	0	--	--	na	8.0E+00	--	--	na	8 0E+00	--	--	--	--	--	--	--	--	--	--	na	**8.0E+00**
Tritium	0	--	--	na	2.0E+04	--	--	na	2.0E+04	--	--	--	--	--	--	--	--	--	--	na	**2.0E+04**
Selenium	0	2.0E+01	5 0E+00	na	1 1E+04	2.0E+01	5.0E+00	na	1 1E+04	--	--	--	--	--	--	--	--	**2.0E+01**	**5.0E+00**	na	**1.1E+04**
Silver	0	2 4E+00	--	na	--	2.4E+00	--	na	--	--	--	--	--	--	--	--	--	**2.4E+00**	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane [C]	0	--	--	na	1 1E+02	--	--	na	1 1E+02	--	--	--	--	--	--	--	--	--	--	na	**1.1E+02**
Tetrachloroethylene [C]	0	--	--	na	8 9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	**8.9E+01**
Thallium	0	--	--	na	6 3E+00	--	--	na	6 3E+00	--	--	--	--	--	--	--	--	--	--	na	**6.3E+00**
Toluene	0	--	--	na	2 0E+05	--	--	na	2 0E+05	--	--	--	--	--	--	--	--	--	--	na	**2.0E+05**
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene [C]	0	7 3E-01	2 0E-04	na	7 5E-03	7.3E-01	2.0E-04	na	7.5E-03	--	--	--	--	--	--	--	--	**7.3E-01**	**2.0E-04**	na	**7.5E-03**
Tributyltin	0	4 6E-01	6.3E-02	na	--	4.6E-01	6 3E-02	na	--	--	--	--	--	--	--	--	--	**4.6E-01**	**6.3E-02**	na	--
1,2,4-Trichlorobenzene	0	--	--	na	9 4E+02	--	--	na	9 4E+02	--	--	--	--	--	--	--	--	--	--	na	**9.4E+02**
1,1,2-Trichloroethane [C]	0	--	--	na	4.2E+02	--	--	na	4 2E+02	--	--	--	--	--	--	--	--	--	--	na	**4.2E+02**
Trichloroethylene [C]	0	--	--	na	8 1E+02	--	--	na	8 1E+02	--	--	--	--	--	--	--	--	--	--	na	**8.1E+02**
2,4,6-Trichlorophenol [C]	0	--	--	na	6 5E+01	--	--	na	6 5E+01	--	--	--	--	--	--	--	--	--	--	na	**6.5E+01**
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride [C]	0	--	--	na	6.1E+01	--	--	na	6.1E+01	--	--	--	--	--	--	--	--	--	--	na	**6.1E+01**
Zinc	0	9 8E+01	9.9E+01	na	6.9E+04	9 8E+01	9.9E+01	na	6.9E+04	--	--	--	--	--	--	--	--	**9.8E+01**	**9.9E+01**	na	**6.9E+04**

Notes

1 All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise

2 Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals

3. Metals measured as Dissolved, unless specified otherwise

4. "C" indicates a carcinogenic parameter

5 Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix

6 Antideg Baseline = (0 25(WQC - background conc) + background conc.) for acute and chronic
= (0 1(WQC - background conc.) + background conc) for human health

7 WLAs established at the following stream flows 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens, Harmonic Mean for Carcinogens, and Annual Average for Dioxin Mixing ratios may be substituted for stream flows where appropriate

Metal	Target Value (SSTV)
Antimony	4.3E+03
Arsenic	9.0E+01
Barium	na
Cadmium	5 8E-01
Chromium III	3.7E+01
Chromium VI	6 4E+00
Copper	4 4E+00
Iron	na
Lead	6 2E+00
Manganese	na
Mercury	5.1E-02
Nickel	1.0E+01
Selenium	3 0E+00
Silver	9.6E-01
Zinc	3.9E+01

Note. do not use QL's lower than the minimum QL's provided in agency guidance

4/2/2008 6:13:16 PM

Facility = CVCCW VA0023426
Chemical = Ammonia
Chronic averaging period = 30
WLAa = 5.8
WLAc = 0.81
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 3
Variance = 3.24
C.V. = 0.6
97th percentile daily values = 7.30025
97th percentile 4 day average = 4.99137
97th percentile 30 day average= 3.61815
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 1.63431277566721
Average Weekly limit = 1.63431277566721
Average Monthly LImit = 1.63431277566721

The data are:

3.0 mg/l

1/22/2008 10:50:18 AM

Facility = CVCCW VA0023426
Chemical = dissolved copper at 81 mg/l hardness
Chronic averaging period = 4
WLAa = 11
WLAc = 7.5
Q.L. = 0.50
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 23
Variance = 190.44
C.V. = 0.6
97th percentile daily values = 55.9686
97th percentile 4 day average = 38.2671
97th percentile 30 day average= 27.7392
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Chronic Toxicity
Maximum Daily Limit = 10.9693108803992
Average Weekly limit = 10.9693108803992
Average Monthly limit = 10.9693108803992

The data are:

23 ug/l

2/19/2008 2:49:56 PM

Facility = CVCCW VA0023426
Chemical = chloride
Chronic averaging period = 4
WLAa = 860
WLAc = 230
Q.L. = 0.1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 63
Variance = 1428.84
C.V. = 0.6
97th percentile daily values = 153.305
97th percentile 4 day average = 104.818
97th percentile 30 day average= 75.9813
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

63 mg/l

2/21/2008 4:35:31 PM

Facility = CVCCW VA0023426
Chemical = Chromium III
Chronic averaging period = 4
WLAa = 480
WLAc = 62
Q.L. = 1
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 1
Variance = .36
C.V. = 0.6
97th percentile daily values = 2.43341
97th percentile 4 day average = 1.66379
97th percentile 30 day average= 1.20605
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

1.0 ug/l

1/22/2008 10:38:22 AM

Facility = CVCCW VA0023426
Chemical = Chromium VI 81 mg/l hardness
Chronic averaging period = 4
WLAa = 16
WLAc = 11
Q.L. = 0.50
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 10
Variance = 36
C.V. = 0.6
97th percentile daily values = 24.3341
97th percentile 4 day average = 16.6379
97th percentile 30 day average= 12.0605
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 16
Average Weekly limit = 16
Average Monthly Limit = 16

The data are:

10

This analysis was repeated and submitted 2/25/08 at a QL of 5 ug/l. This QL is less than the Site Specific Target Value of 6.4 ug/l, so CR VI may be assumed to be absent for the purpose of this evaluation.

1/22/2008 10:32:51 AM

Facility = CVCCW VA0023426
Chemical = Lead 81 hardness
Chronic averaging period = 4
WLAa = 91
WLAc = 10
Q.L. = 0.5
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 2
Variance = 1.44
C.V. = 0.6
97th percentile daily values = 4.86683
97th percentile 4 day average = 3.32758
97th percentile 30 day average= 2.41210
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

2.0 ug/l

2/5/2008 9:32:23 AM

Facility = CVCCW VA0023426
Chemical = nickel
Chronic averaging period = 4
WLAa = 150
WLAc = 17
Q.L. = 0.5
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 3
Variance = 3.24
C.V. = 0.6
97th percentile daily values = 7.30025
97th percentile 4 day average = 4.99137
97th percentile 30 day average= 3.61815
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

3.0 ug/l

2/28/2008 5:07:08 PM

Facility = CVCCW VA0023426
Chemical = Dissolved Selenium
Chronic averaging period = 4
WLAa = 20
WLAc = 5.0
Q.L. = 2.0
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 3
Variance = 3.24
C.V. = 0.6
97th percentile daily values = 7.30025
97th percentile 4 day average = 4.99137
97th percentile 30 day average= 3.61815
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

3.0 ug/l

1/22/2008 10:34:45 AM

Facility = CVCCW VA0023426
Chemical = Silver 81 hardness
Chronic averaging period = 4
WLAa = 2.4
WLAc =
Q.L. = 0.2
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = .5
Variance = .09
C.V. = 0.6
97th percentile daily values = 1.21670
97th percentile 4 day average = .831895
97th percentile 30 day average= .603026
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

0.50 ug/l

1/22/2008 10:51:23 AM

Facility = CVCCW VA0023426
Chemical = dissolved zinc
Chronic averaging period = 4
WLAa = 98
WLAc = 99
Q.L. = 10
# samples/mo. = 1
# samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 19
Variance = 129.96
C.V. = 0.6
97th percentile daily values = 46.2349
97th percentile 4 day average = 31.6120
97th percentile 30 day average= 22.9150
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

No Limit is required for this material

The data are:

19 ug/l

ATTACHMENT G

Reply | Reply to all | Forward | Help

From: Spence, Steve O. (VADOC) Sent: Tue 4/15/2008 9:29 AM

To: Mosca,Denise

Cc:

Subject: FW: 07080423

Attachments: Attachments may contain viruses that are harmful to your computer. Attachments may not display correctly.

07080423 R.pdf(581KB)

View As Web Page

Denise

The results you need are on page five of the lab attachment.

Thanks

Stephen O. Spence

Environmental Services Manager
Central Service Area
Office: 434-767-5543 ext. 5319
Cell: 434-774-0914
Pager: 804-659-5776
Fax - 434-767-4127
Email: steve.spence@vadoc.virginia.gov

From: Georgiana Wenrich [mailto:gwenrich@awslabs.com]
Sent: Tuesday, April 15, 2008 9:21 AM
To: Spence, Steve O.
Subject: 07080423

Georgianna Wenrich

Air Water & Soil Labs

(804)358-8295

AIR WATER & SOIL LABORATORIES, INC.®
2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: January 03, 2008

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-003

Date/Time Sampled: 08/28/07 09:35

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Antimony, Dissolved	EPA200.9	< 0.005 mg/L	0.005	09/07/07 16:27	DMH
Arsenic, Dissolved	EPA200.9	< 0.005 mg/L	0.005	12/26/07 15:47	CGT
Cadmium, Dissolved	EPA200.9	< 0.0003 mg/L	0.0003	09/05/07 14:37	DMH
Chromium, Dissolved	EPA200.9	< 0.001 mg/L	0.001	09/07/07 13:52	DMH
Copper, Dissolved	EPA200.9	0.023 mg/L	0.003	09/05/07 13:51	DMH
Lead, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:17	DMH
Mercury, Dissolved	EPA245.1	< 0.0002 mg/L	0.0002	08/31/07 12:39	DMH
Nickel, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/05/07 11:38	DMH
Selenium, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/06/07 20:13	DMH
Silver, Dissolved	EPA200.9	< 0.0005 mg/L	0.0005	09/07/07 11:05	DMH
Thallium, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:10	DMH
Zinc, Dissolved	EPA200.7	0.019 mg/L	0.010	08/31/07 14:19	CGT

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Antimony, Dissolved	EPA200.9	< 0.005 mg/L	0.005	09/07/07 16:27	DMH
Arsenic, Dissolved	EPA200.9	< 0.005 mg/L	0.005	12/26/07 15:47	CGT
Cadmium, Dissolved	EPA200.9	< 0.0003 mg/L	0.0003	09/05/07 14:37	DMH
Chromium, Dissolved	EPA200.9	< 0.001 mg/L	0.001	09/07/07 13:52	DMH
Copper, Dissolved	EPA200.9	0.023 mg/L	0.003	09/05/07 13:51	DMH
Lead, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:17	DMH
Mercury, Dissolved	EPA245.1	< 0.0002 mg/L	0.0002	08/31/07 12:39	DMH
Nickel, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/05/07 11:38	DMH
Selenium, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/06/07 20:13	DMH
Silver, Dissolved	EPA200.9	< 0.0005 mg/L	0.0005	09/07/07 11:05	DMH
Thallium, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:10	DMH
Zinc, Dissolved	EPA200.7	0.019 mg/L	0.010	08/31/07 14:19	CGT

Mosca,Denise

From: Spence, Steve O. (VADOC)
Sent: Monday, February 25, 2008 3:13 PM
To: Mosca,Denise
Subject: FW: Plant Eff

Denise

Attached is the latest Chromium 6 results.

Thanks

Stephen O. Spence
Environmental Services Manager
Central Service Area
Office: 434-767-5543 ext. 5319
Cell: 434-774-0914
Pager: 804-659-5776
Fax - 434-767-4127
Email: steve.spence@vadoc.virginia.gov

From: Jesssica Comstock [mailto:jcomstock@awslabs.com]
Sent: Monday, February 25, 2008 2:44 PM
To: Good, James L.
Cc: Spence, Steve O.
Subject: Plant Eff

Jim,

Please see attached COA for Lab ID 08020320.

Thanks,

Jessica Comstock
Project Manager
Air Water & Soil Labs
phone: (804) 358-8295
fax: (804) 358-8297
jcomstock@awslabs.com

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Certificate of Analysis

Final Report

Laboratory Order ID 08020320

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: February 22, 2008
Date Issued: February 25, 2008

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order NA

Sample I.D.: Plant Eff

Laboratory Sample I.D.: 08020320-001

Date/Time Sampled: 02/22/08 10:10

Parameter	Method	Sample Results	Rep Limi	Analysis Date/Time	Analyst
Chromium, Hexavalent	SM18/3500-Cr D	< 0.005 mg/L	0.005	02/25/08 17:15	JCW

Ted Soyars

Laboratory Manager

AIR WATER & SOIL LABORATORIES, INC.

2109A NORTH HAMILTON STREET
RICHMOND, VIRGINIA 23230
(804) 358-8295 PHONE
(804)358-8297 FAX

CHAIN OF CUSTODY

PAGE ____ OF ____

CLIENT NAME: CVCW 13	PROJECT NAME:
CLIENT CONTACT: Jim Good	SITE NAME:
CLIENT ADDRESS: 6900 Courthouse Rd Chesterfield VA	PROJECT NUMBER:
CLIENT PHONE NUMBER: 804 - 796 4277 154	P.O. NUMBER:
CLIENT FAX NUMBER:	REGULATORY AUTHORITY:

Is sample for compliance reporting? YES NO | Is sample from a chlorinated supply? YES (NO) | PWS I.D. #:

SAMPLER NAME (PRINT): Jim Good | SAMPLER SIGNATURE: Jim Good | **Turn Around Time:** Day(s)

Have ammonia and TKN samples been verified to be dechlorinated at the time of sampling?: YES NO

CLIENT SAMPLE I.D.	Composite Start Date	Composite Start Time	Grab or Composite Stop Date	Grab or Composite Stop Time	Number of Containers	MATRIX: Grab	MATRIX: Composite	MATRIX: Field Filtered (Dissolved Metals)	MATRIX: Ground Water / Surface Water	MATRIX: Waste Water / Storm Water	MATRIX: Drinking Water	MATRIX: Soil	MATRIX: Solids	MATRIX: Other	ANALYSIS: ✓Chromium 6	ANALYSIS	ANALYSIS	ANALYSIS	ANALYSIS	ANALYSIS	ANALYSIS	COMMENTS
1) PLANT ESH			2/22/08	10:40	1	✓				✓					✓							Quote I.D.: NEED SAMPLE RUN DOWN TO THE QL of 5ug/L
2)																						
3)																						
4)																						
5)																						
6)																						
7)																						
8)																						
9)																						
10)																						

PLEASE NOTE PRESERVATIVE(S) or PUMP RATE (L/min)

1 ice
4°C

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
[illegible]	2/22/08 1150	[signature]	2/22/08 1150
	DATE / TIME	RECEIVED:	DATE / TIME
	DATE / TIME	RECEIVED:	DATE / TIME

QC Data Package: Level I ☐ Level II ☐ Level III ☐ Level IV ☐

LAB USE ONLY

JRC CVW

COOLER TEMP 4 °C

08020320

DUE: 5 Days
Recd: 02/22/08

129.xls

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JRC CVCU **08020320**

DUE: 5 Days
Recd: 02/22/08

Sample Conditions Checklist

Opened by: (print) CW **Lab ID No.:**

(sign) MW **Date Cooler Opened:** 2/22/08

		YES	NO	N/A
1.	How were samples received? Fed Ex ☐ UPS ☐ Courier ☐ Walk In ☑			
2.	Were custody seals used?	☐	☐	☑
3.	If yes, are custody seals unbroken and intact at the date and time of arrival?	☐	☐	☑
4.	Are the custody papers filled out completely and correctly?	☑	☐	☐
5.	Do all bottle labels agree with custody papers?	☑	☐	☐
6.	Are the samples received on ice?	☑	☐	☐
7.	Is the temperature blank or representative sample within acceptable limits? (4 degrees Celsius +/-2)	☑	☐	☐
8.	Are all samples within holding time for requested tests?	☑	☐	☐
9	Is a sufficient amount of sample provided to perform the tests indicated?	☑	☐	☐
10	Are all samples in proper containers for the analyses requested?	☑	☐	☐
11	Are all samples appropriately preserved for the analyses requested?	☑	☐	☐
12	Are all volatile organic containers free of headspace?	☐	☐	☑

COMMENTS

Mosca,Denise

From: Spence, Steve O. (VADOC)
Sent: Tuesday, February 12, 2008 11:02 AM
To: Mosca,Denise
Subject: FW: Central VA Correctional Unit 13 Plant Eff
Importance: High

Denise

The attached lab sheet has the test down to the values you are needing. The Chlordane is 0.2 ug\l and the DDT is 0.01 ug\l.

Thanks

Stephen O. Spence
Environmental Services Manager
Central Service Area
Office: 434-767-5543 ext. 5319
Cell: 434-774-0914
Pager: 804-659-5776
Fax - 434-767-4127
Email: steve.spence@vadoc.virginia.gov

From: Jesssica Comstock [mailto:jcomstock@awslabs.com]
Sent: Friday, December 21, 2007 4:06 PM
To: Spence, Steve O.
Subject: Central VA Correctional Unit 13 Plant Eff
Importance: High

Steve,

My apologies for the delay in getting this to you. I have attached your report with Kepone results on page 2 of 7. Due to the computer LIMS issue we had with this the Dissolved Arsenic was not analyzed, however we still have sample remaining and will analyze it for Arsenic next week. We will also preserve the Hexavalent Chromium sample bottle for 07080423-002 and analyze for Dissolved Chromium so we can calculate the Dissolved Trivalent Chromium and report that next week as well.

Thank you for your patience I hope you have a wonderful Christmas,

Jessica Comstock
Project Manager
Air Water & Soil Labs
phone: (804) 358-8295
fax: (804) 358-8297
jcomstock@awslabs.com

P.S. Ashley told me you know her father, Wade McGinley! He's like a second father to me ☺

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-001

Date/Time Sampled: 08/28/07 09:30

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Oil and Grease	EPA1664A	< 10 mg/L	10.0	09/05/07 9:56	VLG
Total Recoverable Phenolics	EPA420.1	< 0.05 mg/L	0.05	09/05/07 9:50	RPF

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Chromium, Dissolved Trivalent	Calc.		0.010		
Chromium, Hexavalent	EPA218.4/SM3500C r D	< 0.01 mg/L	0.010	08/29/07 15:15	JCW
Demeton-o	EPA622	< 500 ug/L	500	09/10/07 20:26	Sub-TA-FL
Chlorpyrifos	EPA622	< 5000 ug/L	5000	09/10/07 20:26	Sub-TA-FL
Methyl parathion	EPA622	< 5000 ug/L	5000	09/10/07 20:26	Sub-TA-FL
Azinophos, Methyl	EPA622	< 5000 ug/L	5000	09/10/07 20:26	Sub-TA-FL
Malathion	EPA622	< 5000 ug/L	5000	09/10/07 20:26	Sub-TA-FL
Ethyl parathion	EPA622	< 5000 ug/L	5000	09/10/07 20:26	Sub-TA-FL
Chromium, Dissolved	EPA200.7		0.010		
Azobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Kepone	SW8270C	< 20 ug/L	20.0	09/04/07 12:24	JHV
Mirex	SW8081A	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
PCB as Aroclor 1016	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1221	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1232	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1242	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1248	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1254	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
PCB as Aroclor 1260	EPA608	< 1 ug/L	1.0	09/05/07 14:31	RMW
4,4-DDD	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
4,4-DDE	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
4,4-DDT	EPA608	< 0.01 ug/L	0.010	09/05/07 14:31	RMW
Aldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
alpha-BHC	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
beta-BHC	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Chlordane	EPA608	< 0.2 ug/L	0.20	09/05/07 14:31	RMW
delta-BHC	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Dieldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Endosulfan I	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endosulfan II	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
Endosulfan sulfate	EPA608	< 0.01 ug/L	0.010	09/05/07 14:31	RMW

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Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Endrin	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endrin aldehyde	EPA608	< 0.2 ug/L	0.200	09/05/07 14:31	RMW
gamma-BHC (Lindane)	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Heptachlor	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Heptachlor epoxide	EPA608	< 0.2 ug/L	0.200	09/05/07 14:31	RMW
Methoxychlor	EPA608	< 2 ug/L	2.00	09/05/07 14:31	RMW
Toxaphene	EPA608	< 3 ug/L	3.00	09/05/07 14:31	RMW
2-Chlorophenol	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
2,4-Dichlorophenol	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
2,4-Dimethylphenol	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
4,6-Dinitro-2-methylphenol	EPA625	< 50 ug/L	50.0	09/04/07 12:24	JHV
2,4-Dinitrophenol	EPA625	< 50 ug/L	50.0	09/04/07 12:24	JHV
Pentachlorophenol	EPA625	< 20 ug/L	20.0	09/04/07 12:24	JHV
Phenol	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
2,4,6-Trichlorophenol	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Acenaphthene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Anthracene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Benzo (a) anthracene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Benzo (b) fluoranthene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Benzo (k) fluoranthene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Benzo (a) pyrene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Butyl benzyl phthalate	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
bis (2-Chloroethyl) ether	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
bis (2-Chloroisopropyl) ether	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Chrysene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Dibenz (a,h) anthracene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Di-n-butyl phthalate	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
1,2-Dichlorobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
1,3-Dichlorobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
1,4-Dichlorobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Diethyl phthalate	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Dimethyl phthalate	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
2,4-Dinitrotoluene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
bis (2-Ethylhexyl) phthalate	EPA625	20.7 ug/L	10.0	09/04/07 12:24	JHV
Fluoranthene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Fluorene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Hexachlorobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Hexachlorobutadiene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Hexachlorocyclopentadiene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Hexachloroethane	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Indeno (1,2,3-cd) pyrene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Isophorone	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Nitrobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
N-Nitrosodimethylamine	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
N-Nitrosodiphenylamine	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
N-Nitrosodi-N-propylamine	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Pyrene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
1,2,4-Trichlorobenzene	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
Benzidine	EPA625	< 50 ug/L	50.0	09/04/07 12:24	JHV
3,3-Dichlorobenzidine	EPA625	< 10 ug/L	10.0	09/04/07 12:24	JHV
2-Chloronaphthalene	SW8270C	< 10 ug/L	10.0	09/04/07 12:24	JHV
Ammonia	SM4500-NH3 F	0.11 mg/L	0.10	09/06/07 11:40	RPF
Nitrate	EPA300.0	2.90 mg/L	0.10	08/29/07 15:09	RPF
Nitrite	EPA300.0	0.26 mg/L	0.01	08/29/07 15:09	RPF
Phosphorus, Total	SM4500-P E	2.96 mg/L	0.05	09/04/07 15:30	VLG
Sulfide	SM4500-S F	< 1 mg/L	1.0	08/29/07 13:45	RPF
TDS	SM2540C	344 mg/L	10	09/02/07 15:10	JPV
TKN	EPA351.2	0.8 mg/L	0.2	08/31/07 13:25	RPF
Tributyltin	85-3295	< 0.05 ug/L	0.05	09/06/07 13:27	Sub-UL

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-003

Date/Time Sampled: 08/28/07 09:35

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Antimony, Dissolved	EPA200.9	< 0.005 mg/L	0.005	09/07/07 16:27	DMH
Arsenic, Dissolved	EPA200.9		0.005		
Cadmium, Dissolved	EPA200.9	< 0.0003 mg/L	0.0003	09/05/07 14:37	DMH
Chromium, Dissolved	EPA200.9	< 0.001 mg/L	0.001	09/07/07 13:52	DMH
Copper, Dissolved	EPA200.9	0.023 mg/L	0.003	09/05/07 13:51	DMH
Lead, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:17	DMH
Mercury, Dissolved	EPA245.1	< 0.0002 mg/L	0.0002	08/31/07 12:39	DMH
Nickel, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/05/07 11:38	DMH
Selenium, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/06/07 20:13	DMH
Silver, Dissolved	EPA200.9	< 0.0005 mg/L	0.0005	09/07/07 11:05	DMH
Thallium, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:10	DMH
Zinc, Dissolved	EPA200.7	0.019 mg/L	0.010	08/31/07 14:19	CGT

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-004

Date/Time Sampled: 08/28/07 09:38

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Acrolein	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Acrylonitrile	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Vinyl chloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromomethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Methylene chloride	EPA624	< 20 ug/L	20.0	08/31/07 13:52	DMB
trans-1,2-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chloroform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Carbon tetrachloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Benzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Trichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloropropane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromodichloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
2-Chloroethyl vinyl ether	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
cis-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Toluene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
trans-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2-Trichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Tetrachloroethylene (PCE)	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Dibromochloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chlorobenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Ethylbenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromoform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2,2-Tetrachloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-005

Date/Time Sampled: 08/29/07 02:55

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Chloride	EPA300.0	62.6 mg/L	1.0	09/06/07 12:42	RPF

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: December 21, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-006

Date/Time Sampled: 08/28/07 09:33

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Cyanide	Kelada-01	< 0.01 mg/L	0.01	09/04/07 14:15	RPF

Ted Soyars
Laboratory Manager

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Client Site I.D.:

Project Number: NA

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Chromium, Hexavalent	EPA218.4/SM3500Cr D	< 0.01 mg/L	0.010	08/29/07 15:15	JCW
Demeton-o	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Chlorpyrifos	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Methyl parathion	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Azinophos	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Malathion	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Ethyl parathion	EPA622	< 5 ug/L	5.00	09/10/07 20:26	Sub-TA-FL
Azobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Mirex	SW8081A	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
PCB as Aroclor 1016	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1221	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1232	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1242	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1248	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1254	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1260	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
4,4-DDD	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
4,4-DDE	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
4,4-DDT	EPA608	< 0.12 ug/L	0.120	09/05/07 14:31	RMW
Aldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
alpha-BHC	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
beta-BHC	EPA608	< 0.03 ug/L	0.030	09/05/07 14:31	RMW
Chlordane	EPA608	< 1 ug/L	1.00	09/05/07 14:31	RMW
delta-BHC	EPA608	< 0.03 ug/L	0.030	09/05/07 14:31	RMW
Dieldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Endosulfan I	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endosulfan II	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
Endosulfan sulfate	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endrin	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endrin aldehyde	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endrin ketone	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
gamma-BHC (Lindane)	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Heptachlor	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Heptachlor epoxide	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Methoxychlor	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Toxaphene	EPA608	< 1 ug/L	1.00	09/05/07 14:31	RMW

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Heptachlor	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Heptachlor epoxide	EPA608	< 0.2 ug/L	0.200	09/05/07 14:31	RMW
Methoxychlor	EPA608	< 2 ug/L	2.0	09/05/07 14:31	RMW
Toxaphene	EPA608	< 3 ug/L	3.0	09/05/07 14:31	RMW
2-Chlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4-Dichlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4-Dimethylphenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
4,6-Dinitro-2-methylphenol	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
2,4-Dinitrophenol	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
Pentachlorophenol	EPA625	< 20 ug/L	20	09/04/07 12:24	JHV
Phenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4,6-Trichlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Acenaphthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (a) anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (b) fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (k) fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (a) pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Butyl benzyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Chloroethyl) ether	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Chloroisopropyl) ether	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Chrysene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Dibenz (a,h) anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Diethyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,3-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,2-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,4-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Dimethyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Di-n-butyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4-Dinitrotoluene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Ethylhexyl) phthalate	EPA625	21 ug/L	10	09/04/07 12:24	JHV
Fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Fluorene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorobutadiene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorocyclopentadiene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachloroethane	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Indeno (1,2,3-cd) pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Isophorone	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Nitrobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodimethylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodiphenylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodi-N-propylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,2,4-Trichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzidine	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
3,3-Dichlorobenzidine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2-Chloronaphthalene	SW8270C	< 10 ug/l	10.0	09/04/07 12:24	JHV
Ammonia	SM4500-NH3 F	0.11 mg/L	0.10	09/06/07 11:40	RPF
Nitrate	EPA300.0	2.90 mg/L	0.10	08/29/07 15:09	RPF
Nitrite	EPA300.0	0.26 mg/L	0.01	08/29/07 15:09	RPF
Phosphorus, Total	SM4500-P E	2.56 mg/L	0.05	09/04/07 15:30	VLG
[illegible]	SM4500 S-2 F	< 1.0 mg/L	1.0	08/29/07 13:45	RPF
TSS	SM2540C	344 mg/L	10	09/02/07 15:10	JHV
TKN	EPA351.2	3.8 mg/L	0.2	08/31/07 13:25	RPF
Turbidity	85-0295	< 0.05 ug/l	0.05	08/06/07 13:27	[illegible]

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-003

Date/Time Sampled: 08/28/07 09:35

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Antimony, Dissolved	EPA200.9	< 0.005 mg/L	0.005	09/07/07 16:27	DMH
Cadmium, Dissolved	EPA200.9	< 0.0003 mg/L	0.0003	09/05/07 14:37	DMH
Chromium, Dissolved	EPA200.9	< 0.001 mg/L	0.001	09/07/07 13:52	DMH
Copper, Dissolved	EPA200.9	0.023 mg/L	0.003	09/05/07 13:51	DMH
Lead, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:17	DMH
Mercury, Dissolved	EPA245.1	< 0.0002 mg/L	0.0002	08/31/07 12:39	DMH
Nickel, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/05/07 11:38	DMH
Selenium, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/06/07 20:13	DMH
Silver, Dissolved	EPA200.9	< 0.0005 mg/L	0.0005	09/07/07 11:05	DMH
Thallium, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:16	DMH
Zinc, Dissolved	EPA200.7	0.019 mg/L	0.010	08/31/07 14:19	CGT

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-004

Date/Time Sampled: 08/28/07 09:38

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Acrolein	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Acrylonitrile	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Vinyl chloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromomethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Methylene chloride	EPA624	< 20 ug/L	20.0	08/31/07 13:52	DMB
trans-1,2-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chloroform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Carbon tetrachloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Benzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Trichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloropropane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromodichloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
2-Chloroethyl vinyl ether	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
cis-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Toluene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
trans-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2-Trichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Tetrachloroethylene (PCE)	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Dibromochloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chlorobenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Ethylbenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromoform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2,2-Tetrachloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-005

Date/Time Sampled: 08/29/07 02:55

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Ammonia	EPA350.0	0.3 mg/L	0.1	09/06/07 13:42	JBP

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Certificate of Analysis

Final Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: October 03, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-006

Date/Time Sampled: 08/28/07 09:33

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Cyanide	Kelada-01	< 0.01 mg/L	0.01	09/04/07 14:15	RPF

Ted Soyars
Laboratory Manager

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: September 11, 2007

Submitted To: Jim Good

Client Site I.D.:

Project Number: NA

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Chromium, Hexavalent	EPA218.4/SM3500Cr D	< 0.01 mg/L	0.010	08/29/07 15:15	JCW
Azobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Mirex	SW8081A	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
PCB as Aroclor 1016	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1221	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1232	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1242	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1248	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1254	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
PCB as Aroclor 1260	EPA608	< 5 ug/L	5.0	09/05/07 14:31	RMW
4,4-DDD	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
4,4-DDE	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
4,4-DDT	EPA608	< 0.12 ug/L	0.120	09/05/07 14:31	RMW
Aldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
alpha-BHC	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
beta-BHC	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Chlordane	EPA608	< 1 ug/L	1.00	09/05/07 14:31	RMW
delta-BHC	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Dieldrin	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Endosulfan I	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endosulfan II	EPA608	< 0.04 ug/L	0.040	09/05/07 14:31	RMW
Endosulfan sulfate	EPA608	< 0.5 ug/L	0.500	09/05/07 14:31	RMW
Endrin	EPA608	< 0.1 ug/L	0.100	09/05/07 14:31	RMW
Endrin aldehyde	EPA608	< 0.2 ug/L	0.200	09/05/07 14:31	RMW
gamma-BHC (Lindane)	EPA608	< 0.02 ug/L	0.020	09/05/07 14:31	RMW
Heptachlor	EPA608	< 0.05 ug/L	0.050	09/05/07 14:31	RMW
Heptachlor epoxide	EPA608	< 0.2 ug/L	0.200	09/05/07 14:31	RMW
Hexachlorobenzene	EPA608	< 2 ug/L	2.0	09/05/07 14:31	RMW
Toxaphene	EPA608	< 3 ug/L	3.0	09/05/07 14:31	RMW
2-Chlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4-Dichlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: September 11, 2007

Submitted To: Jim Good

Client Site I.D.:

Project Number: NA

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
2,4-Dimethylphenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
4,6-Dinitro-2-methylphenol	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
2,4-Dinitrophenol	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
Pentachlorophenol	EPA625	< 20 ug/L	20	09/04/07 12:24	JHV
Phenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4,6-Trichlorophenol	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Acenaphthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (a) anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (b) fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (k) fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzo (a) pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Butyl benzyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Chloroethyl) ether	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Chloroisopropyl) ether	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Chrysene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Dibenz (a,h) anthracene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Di-n-butyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,2-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,3-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,4-Dichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Diethyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Dimethyl phthalate	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2,4-Dinitrotoluene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
bis (2-Ethylhexyl) phthalate	EPA625	21 ug/L	10	09/04/07 12:24	JHV
Fluoranthene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Fluorene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorobutadiene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachlorocyclopentadiene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Hexachloroethane	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Indeno (1,2,3-cd) pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV

AIR WATER & SOIL LABORATORIES, INC.
2109A North Hamilton Street • Richmond, Virginia 23230 • Tel: (804) 358-8295 Fax: (804) 358-8297

Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: September 11, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-002

Date/Time Sampled (Start/Stop): 08/28/07 00:01 to 08/28/07 23:59

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Isophorone	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Nitrobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodimethylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodiphenylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
N-Nitrosodi-N-propylamine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Pyrene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
1,2,4-Trichlorobenzene	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
Benzidine	EPA625	< 50 ug/L	50	09/04/07 12:24	JHV
3,3-Dichlorobenzidine	EPA625	< 10 ug/L	10	09/04/07 12:24	JHV
2-Chloronaphthalene	SW8270C	< 10 ug/L	10.0	09/04/07 12:24	JHV
Ammonia	SM4500-NH3 F	0.11 mg/L	0.10	09/06/07 11:40	RPF
Nitrate	EPA300.0	2.90 mg/L	0.10	08/29/07 15:09	RPF
Nitrite	EPA300.0	0.26 mg/L	0.01	08/29/07 15:09	RPF
Phosphorus, Total	SM4500-P E	2.96 mg/L	0.05	09/04/07 15:30	VLG
Sulfide	SM4500 S F	< 1 mg/L	1.0	08/29/07 13:45	RPF
TDS	SM2540C	344 mg/L	10	09/02/07 15:10	JPV
TKN	EPA351.2	0.8 mg/L	0.2	08/31/07 13:25	RPF
Tributyltin	85-3295	< 0.05 ug/L	0.05	09/06/07 13:27	Sub-Ut

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: September 11, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-003

Date/Time Sampled: 08/28/07 09:35

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Antimony, Dissolved	EPA200.9	< 0.005 mg/L	0.005	09/07/07 16:27	DMH
Cadmium, Dissolved	EPA200.9	< 0.0003 mg/L	0.0003	09/05/07 14:37	DMH
Chromium, Dissolved	EPA200.9	< 0.001 mg/L	0.001	09/07/07 13:52	DMH
Copper, Dissolved	EPA200.9	0.023 mg/L	0.003	09/05/07 13:51	DMH
Lead, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:17	DMH
Mercury, Dissolved	EPA245.1	< 0.0002 mg/L	0.0002	08/31/07 12:39	DMH
Nickel, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/05/07 11:38	DMH
Selenium, Dissolved	EPA200.9	< 0.003 mg/L	0.003	09/06/07 20:13	DMH
Silver, Dissolved	EPA200.9	< 0.0005 mg/L	0.0005	09/07/07 11:05	DMH
Thallium, Dissolved	EPA200.9	< 0.002 mg/L	0.002	09/04/07 12:10	DMH
Zinc, Dissolved	EPA200.7	0.019 mg/L	0.010	08/31/07 14:19	CGT

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Certificate of Analysis

Preliminary Report

Laboratory Order ID 07080423

Client Name: Central Virginia Correctional Unit 13
6900 Courthouse Road
Chesterfield, VA 23832

Date Received: August 29, 2007
Date Issued: September 11, 2007

Submitted To: Jim Good

Project Number: NA

Client Site I.D.:

Purchase Order: NA

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-004

Date/Time Sampled: 08/28/07 09:38

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Acrylonitrile	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Acrolein	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Vinyl chloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromomethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Methylene chloride	EPA624	< 20 ug/L	20.0	08/31/07 13:52	DMB
trans-1,2-Dichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chloroform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Carbon tetrachloride	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Benzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Trichloroethylene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,2-Dichloropropane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromodichloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
2-Chloroethyl vinyl ether	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
cis-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Toluene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
trans-1,3-Dichloropropene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2-Trichloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Tetrachloroethylene (PCE)	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Dibromochloromethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Chlorobenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Ethylbenzene	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
Bromoform	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB
1,1,2,2-Tetrachloroethane	EPA624	< 10 ug/L	10.0	08/31/07 13:52	DMB

Sample I.D.: Plant EFF

Laboratory Sample I.D.: 07080423-005

Date/Time Sampled: 08/28/07 09:38

Parameter	Method	Sample Results	Rep Limit	Analysis Date/Time	Analyst
Chloride	EPA300.0	63 mg/L	1.0	09/06/07 12:42	RPF

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556–8171 – www.gel.com

Certificate of Analysis

Company : Air Water & Soil Labs, Inc
Address : 2109 North Hamilton Street
Richmond, Virginia 23230

Report Date: September 20, 2007

Contact: Ms. Georgianna Wenrich
Project: **Radiochemistry Analytical**

Client Sample ID: 07080423–002
Sample ID: 192788001
Matrix: Waste Water
Collect Date: 28–AUG–07 23:59
Receive Date: 30–AUG–07
Collector: Client

Project: AWSL00107
Client ID: AWSL001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Actinium-228	U	ND	+/–9.21	15.3	20.0	pCi/L		MJH1 09/19/07	1017	680726	1
Americium-241	U	ND	+/–10.6	16.1	25.0	pCi/L					
Antimony-124	U	ND	+/–5.28	8.56	5.00	pCi/L					
Antimony-125	U	ND	+/–5.59	9.45	10.0	pCi/L					
Barium-133	U	ND	+/–8.67	4.77	5.00	pCi/L					
[illegible]	U	ND	+/–26.7	39.8	50.0	pCi/L					
Beryllium-7	U	ND	+/–25.9	39.2	50.0	pCi/L					
Bismuth-212	U	ND	+/–23.4	28.0	50.0	pCi/L					
Bismuth-214	U	ND	+/–8.04	9.36	10.0	pCi/L					
Cerium-139	U	ND	+/–2.35	3.17	5.00	pCi/L					
Cerium-141	U	ND	+/–5.97	8.55	10.0	pCi/L					
Cerium-144	U	ND	+/–15.4	24.7	50.0	pCi/L					
Cesium-134	U	ND	+/–2.00	3.39	5.00	pCi/L					
Cesium-136	U	ND	+/–7.62	13.6	15.0	pCi/L					
Cesium-137	U	ND	+/–2.27	3.13	5.00	pCi/L					
Chromium-51	U	ND	+/–28.1	43.1	50.0	pCi/L					
[illegible]	U	ND	+/–2.96	4.23	5.00	pCi/L					
Cobalt-57	U	ND	+/–1.87	3.22	5.00	pCi/L					
Cobalt-58	U	ND	+/–2.08	3.24	10.0	pCi/L					
Cobalt-60	U	ND	+/–2.11	3.88	5.00	pCi/L					
Dysprosium-152	U	ND	+/–6.89	11.0	20.0	pCi/L					
[illegible]	U	ND	+/–4.68	9.08	20.0	pCi/L					
[illegible]	U	ND	+/–6.63	12.3	20.0	pCi/L					
[illegible]	U	ND	+/–2.60	3.99	10.0	pCi/L					
[illegible]	U	ND	+/–5.16	8.95	10.0	pCi/L					
[illegible]	U	ND	+/–248	391	750	pCi/L					
[illegible]	U	ND	+/–1.47	2.17	5.00	pCi/L					
[illegible]	U	ND	+/–2.26	3.63	10.0	pCi/L					
Manganese-54	U	ND	+/–2.05	3.54	5.00	pCi/L					
Mercury-203	U	ND	+/–2.87	5.20	5.00	pCi/L					
[illegible]	U	ND	+/–35.5	57.2	100	pCi/L					
[illegible]	U	ND	+/–12.3	20.5	20.0	pCi/L					
[illegible]	U	ND	+/–2.82	4.50	5.00	pCi/L					

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Certificate of Analysis

Company : Air Water & Soil Labs, Inc
Address : 2109 North Hamilton Street
Richmond, Virginia 23230

Report Date: September 20, 2007

Contact: Ms. Georgianna Wenrich
Project: **Radiochemistry Analytical**

Client Sample ID: 07080423–002
Sample ID: 192788001

Project: AWSL00107
Client ID: AWSL001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method
Rad Gamma Spec Analysis											
Gammaspec, Gamma, Liquid (Standard List)											
Niobium–95	U	ND	+/–3.68	4.52	5.00	pCi/L					
Potassium–40	U	ND	+/–31.5	34.7	100	pCi/L					
Promethium–144	U	ND	+/–2.59	3.73	5.00	pCi/L					
Promethium–146	U	ND	+/–2.73	4.90	5.00	pCi/L					
Radium–228	U	ND	+/–9.21	15.3	20.0	pCi/L					
Ruthenium–106	U	ND	+/–19.6	29.7	50.0	pCi/L					
Silver–110m	U	ND	+/–2.20	3.43	5.00	pCi/L					
Sodium–22	U	ND	+/–1.68	3.34	5.00	pCi/L					
Thallium–208	U	ND	+/–4.50	4.07	10.0	pCi/L					
Thorium–230	U	ND	+/–3580	1350	20.0	pCi/L					
Thorium–234	UI	ND	+/–193	135	250	pCi/L					
[illegible]	U	ND	+/–2.90	4.84	10.0	pCi/L					
Uranium–235	U	ND	+/–18.2	25.4	50.0	pCi/L					
Uranium–238	UI	ND	+/–193	135	250	pCi/L					
Yttrium–88	U	ND	+/–2.18	4.24	10.0	pCi/L					
Zinc–65	U	ND	+/–3.92	6.57	10.0	pCi/L					
Zirconium–95	U	ND	+/–4.88	7.08	10.0	pCi/L					
Rad Gas Flow Proportional Counting											
GFPC, Gross A/B, liquid											
Alpha	U	ND	+/–2.32	4.20	5.00	pCi/L		HAK 09/08/07 1446 668837 B			2
Beta		8.61	+/–3.18	4.05	5.00	pCi/L					
GFPC, Sr90, liquid											
Strontium–90	U	ND	+/–0.856	1.93	2.00	pCi/L		SLN1 09/11/07 1846 681394			3
Rad Liquid Scintillation Analysis											
LSC, Uranium Dist, Liquid											
[illegible]	U	ND	+/–1.23	2.58	5.0	pCi/L		BKH 09/10/07 2335 682005			1

The following Analytical Methods were performed

Method	Description	Analyst Comments
1	EPA 901.1	
2	EPA 900.0	
3	EPA 905.0 Modified	
4	EPA 905.0 Modified	

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits

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Certificate of Analysis

Company : Air Water & Soil Labs, Inc
Address : 2109 North Hamilton Street
Richmond, Virginia 23230

Report Date: September 20, 2007

Contact: Ms. Georgianna Wenrich
Project: **Radiochemistry Analytical**

Client Sample ID: 07080423–002
Sample ID: 192788001

Project: AWSL00107
Client ID: AWSL001

Parameter	Qualifier	Result	Uncertainty	DL	RL	Units	DF	AnalystDate	Time	Batch	Method

Surrogate/Tracer recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, liquid			72	(25%–125%)

CILITY NAME AND PERMIT NUMBER:
CVCCW VA0023426

Form Approved 1/14/99
OMB Number 2040-0086

A.11. **Description of Treatment**

a. What levels of treatment are provided? Check all that apply.

☐ Primary ☒ Secondary

☐ Advanced ☐ Other. Describe: _____

b. Indicate the following removal rates (as applicable):

Design BOD5 removal or Design CBOD5 removal	95	%
Design SS removal	85	%
Design P removal		%
Design N removal		%
Other _____		%

c. What type of disinfection is used for the effluent from this outfall? If disinfection varies by season, please describe:

Ultraviolet

If disinfection is by chlorination is dechlorination used for this outfall? ☐ Yes ☒ No

d. Does the treatment plant have post aeration? ☒ Yes ☐ No

A.12 **Effluent Testing Information. All Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide the indicated effluent testing required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum, effluent testing data must be based on at least three samples and must be no more than four and one-half years apart.**

Outfall number: 001

PARAMETER	MAXIMUM DAILY VALUE		AVERAGE DAILY VALUE		
	Value	Units	Value	Units	Number of Samples
pH (Minimum)	6.5	s.u.			
pH (Maximum)	7.4	s.u.			
Flow Rate	0.037	MGD	0.038	MGD	3
Temperature (Winter)	24	C	24	C	3
Temperature (Summer)	27	C	25	C	3

* For pH please report a minimum and a maximum daily value

POLLUTANT		MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
		Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS								
BIOCHEMICAL OXYGEN DEMAND (Report one)	BOD5	n\a	n\a	n\a	n\a	n\a	n\a	n\a
	CBOD5	<2.0	mg\l	<2.0	mg\l	3	5210 B	2
FECAL COLIFORM		3	MPN	1.7	MPN	3	Colilert	MPN
TOTAL SUSPENDED SOLIDS (TSS)		4.4	mg\l	2.3	mg\l	3	25401 D	0.5

VCCW

FACILITY NAME AND PERMIT NUMBER:
Unit #13 VA 00 23426

Form Approved 1/14/99
OMB Number 2040-0086

c. If the answer to B.5.b is "Yes," briefly describe, including new maximum daily inflow rate (if applicable).

d. Provide dates imposed by any compliance schedule or any actual dates of completion for the implementation steps listed below, as applicable. For improvements planned independently of local, State, or Federal agencies, indicate planned or actual completion dates, as applicable. Indicate dates as accurately as possible.

Implementation Stage	Schedule MM/DD/YYYY	Actual Completion MM/DD/YYYY
- Begin Construction	/ /	/ /
- End Construction	/ /	/ /
- Begin Discharge	/ /	/ /
- Attain Operational Level	/ /	/ /

e. Have appropriate permits/clearances concerning other Federal/State requirements been obtained? ☐ Yes ☐ No

Describe briefly:

B.6. EFFLUENT TESTING DATA (GREATER THAN 0.1 MGD ONLY).

Applicants that discharge to waters of the US must provide effluent testing data for the following parameters. Provide effluent testing for the following listed parameters and those required by the permitting authority for each outfall through which effluent is discharged. Do not include information on combined sewer overflows in this section. All information reported must be based on data collected through analysis conducted using 40 CFR Part 136 methods. In addition, this data must comply with QA/QC requirements of 40 CFR Part 136 and other appropriate QA/QC requirements for standard methods for analytes not addressed by 40 CFR Part 136. At a minimum effluent testing data must be based on at least three pollutant scans, preferably represent several seasons, and must be no more than four and on-half years old.

Outfall Number: 001

POLLUTANT	MAXIMUM DAILY DISCHARGE		AVERAGE DAILY DISCHARGE			ANALYTICAL METHOD	ML/MDL
	Conc.	Units	Conc.	Units	Number of Samples		
CONVENTIONAL AND NON CONVENTIONAL COMPOUNDS							
AMMONIA (as N)	.11	mg\l	.11	mg\l	3	SM 4500-NH3	0.1
CHLORINE (TOTAL RESIDUAL, TRC)	n\a	n\a	n\a	n\a	n\a	n\a	n\a
DISSOLVED OXYGEN	7.9	mg\l	7.7	mg\l	3	SM - 4500 OG	0.1
TOTAL KJELDAHL NITROGEN (TKN)	.87	mg\l	.9	mg\l	3	EPA 351.2	0.2
NITRATE PLUS NITRITE NITROGEN	4.8	mg\l	3.38	mg\l	3	EPA 300.0	0.1
OIL and GREASE	<10	mg\l	<10	mg\l	3	EPA 1664A	10.0
PHOSPHORUS (Total)	2.48	mg\l	3.12	mg\l	3	SM 4500-PE	0.05
TOTAL DISSOLVED SOLIDS (TDS)	347	mg\l	350	mg\l	3	SM 2540C	10
OTHER	-	-	-	-	-	-	-

END OF PART B.
REFER TO THE APPLICATION OVERVIEW TO DETERMINE WHICH OTHER PARTS OF FORM 2A YOU MUST COMPLETE

ATTACHMENT H

Revised 2/2003

State "Transmittal Checklist" to Assist in Targeting Municipal and Industrial Individual NPDES Draft Permits for Review

Part I. State Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name: CVCCW Wastewater Treatment Plant

NPDES Permit Number: VA0023426

Permit Writer Name: Denise Mosca

Date: 2-21-08

Major [ ] **Minor** [x] **Industrial** [ ] **Municipal** [x]

I.A. Draft Permit Package Submittal Includes:	**Yes**	**No**	**N/A**
1. Permit Application?	x		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	x		
3. Copy of Public Notice?		**x**	
4. Complete Fact Sheet?	x		
5. A Priority Pollutant Screening to determine parameters of concern?	x		
6. A Reasonable Potential analysis showing calculated WQBELs?	x		
7. Dissolved Oxygen calculations?	x		
8. Whole Effluent Toxicity Test summary and analysis?			x
9. Permit Rating Sheet for new or modified industrial facilities?			x

I.B. Permit/Facility Characteristics	**Yes**	**No**	**N/A**
1. Is this a new, or currently unpermitted facility? Not constructed yet, but has permit		x	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	x		
3. Does the fact sheet **or** permit contain a description of the wastewater treatment process?	x		

I.B. Permit/Facility Characteristics – cont.	Yes	No	N/A
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?	x		
5. Has there been any change in streamflow characteristics since the last permit was developed?		x	
6. Does the permit allow the discharge of new or increased loadings of any pollutants?	x		
7. Does the fact sheet **or** permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	x		
8. Does the facility discharge to a 303(d) listed water? (UTRIB not classified, but Appomattox is 303(d) listed.		x	
a. Has a TMDL been developed and approved by EPA for the impaired water? A TMDL for the Appomattox was approved by EPA in 2004 and by the WCB in 2005.	x		
b. Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?	x		
c. Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?	x		
9. Have any limits been removed, or are any limits less stringent, than those in the current permit?	x		
10. Does the permit authorize discharges of storm water?		x	
11. Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		x	
12. Are there any production-based, technology-based effluent limits in the permit?	x		
13. Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		x	
14. Are any WQBELs based on an interpretation of narrative criteria?		x	
15. Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		x	
16. Does the permit contain a compliance schedule for any limit or condition?	x		
17. Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		x	
18. Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	x		
19. Is there any indication that there is significant public interest in the permit action proposed for this facility?		x	
20. Have previous permit, application, and fact sheet been examined?	x		

Part II. NPDES Draft Permit Checklist

Region III NPDES Permit Quality Checklist – for POTWs

(To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	x		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	x		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	x		
2. Does the fact sheet discuss whether "antibacksliding" provisions were met for any limits that are less stringent than those in the previous NPDES permit?	x		

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for ALL of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS, and pH?	x		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	x		
a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			x
3. Are technology-based permit limits expressed in the appropriate units of measure (e.g., concentration, mass, SU)?	x		
4. Are permit limits for BOD and TSS expressed in terms of both long term (e.g., average monthly) and short term (e.g., average weekly) limits?	x		
5. Are any concentration limitations in the permit less stringent than the secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		x	
a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			x

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering State narrative and numeric criteria for water quality?	x		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?	x		

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?	x		
4. Does the fact sheet document that a "reasonable potential" evaluation was performed?	x		
a. If yes, does the fact sheet indicate that the "reasonable potential" evaluation was performed in accordance with the State's approved procedures?	x		
b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?	x		
c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have "reasonable potential"?	x		
d. Does the fact sheet indicate that the "reasonable potential" and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?		x	
e. Does the permit contain numeric effluent limits for all pollutants for which "reasonable potential" was determined?	x		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	x		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	x		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	x		
8. Does the record indicate that an "antidegradation" review was performed in accordance with the State's approved antidegradation policy?	x		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	x		
a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate this waiver?			x
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	x		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		x	
4. Does the permit require testing for Whole Effluent Toxicity?		x	

II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?	x		
2. Does the permit include appropriate storm water program requirements?			x

II.F. Special Conditions – cont.	Yes	No	N/A
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?	x		
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?	x		
5. Does the permit allow/authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?		x	
6. Does the permit authorize discharges from Combined Sewer Overflows (CSOs)?		x	
a. Does the permit require implementation of the "Nine Minimum Controls"?			x
b. Does the permit require development and implementation of a "Long Term Control Plan"?			x
c. Does the permit require monitoring and reporting for CSO events?			x
7. Does the permit include appropriate Pretreatment Program requirements?			x

II.G. Standard Conditions	Yes	No	N/A
1. Does the **permit** contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	x		
List of Standard Conditions – 40 CFR 122.41 Duty to comply Duty to reapply Need to halt or reduce activity not a defense Duty to mitigate Proper O & M Permit actions Property rights Duty to provide information Inspections and entry Monitoring and records Signatory requirement Bypass Upset Reporting Requirements Planned change Anticipated noncompliance Transfers Monitoring reports Compliance schedules 24-Hour reporting Other non-compliance			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	x		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Denise M. Mosca
Title	Environmental Specialist II
Signature	Denise Mosca
Date	September 25, 2007